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Textile World

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*Editor:* Douglas G. Woolf

# *Measuring the Cycles*

IN a recent editorial entitled "Constructive Optimism in Textiles," we stated that the then current rate of sales would not be maintained throughout the year; and that, as and when it "dipped", it would challenge anew the courage of the industry.

A good friend commented on this, as follows:

"It is a foregone conclusion that there will be a dip, no matter what the general upward trend this year may be, since by the normal seasonal cycle we are now in one of the periods which normally has a higher rate of sales.

"Something of this sort came up recently which indicated the lack of appreciation by some sellers, of what a normal seasonal variation is. You will remember that in the plan for handling our sales and production, considerable stress was put at the start on finding out what our seasonal cycle was. I wonder how much effort the industry at large has made in that direction. I don't mean simply knowing in what months of the year sales are to be expected to be fairly good and in what months they are likely to be poor, but to go as far as getting some measure of that variation.

"We can hope for little balancing of production with sales for long time stabilizing until such knowledge is obtained. We have found that it takes some courage to sit back, hold to prices, and watch your inventory pile up, but that it is much easier to keep up one's courage when we know what our sales position during such a down-swing is in relation to the normal down-swing, rather than just knowing that we are in a dip."

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In other words: *Planning.*

And planning, we opined at the beginning of the year, is one of the fundamental 1931 prerequisites in textile manufacture.

This thought was further emphasized in the following statement in the McGraw-Hill "Platform for American Business," published as a supplement to our Feb. 28, 1930 issue: "Planning is essential for uninterrupted progress."

During the last year the industry has achieved a real and general appreciation of the importance of balancing production with demand—and has acted on the basis of that realization. But something more is needed. Manufacturers, by and large, are still thinking of current production as related to current demand. They are not thinking of balanced production over the year.

Until they do, we shall have alternate periods of overtime production and sharp curtailment. The way in which the industry voluntarily reduced operations from time to time last year was a fine example of courage; it might almost be termed heroic. But no one wants to continue on a basis where such heroism is demanded constantly.

To level out these peaks and valleys requires more than courage; it requires knowledge. And knowledge of the type indicated by our correspondent above is one of the most important factual tools toward this end.

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We believe that some fundamental study of seasonal cycles in textiles might be made cooperatively, and we respectfully suggest this to the various institutes and associations.

However we also believe that the bulk of the job must be done at home. Each manufacturer, working in cooperation with his sales organization or agency, must study the market as it affects his particular product, and as it is affected by his particular production and sales set-up.

If the industry rests on the laurels it has already won, it will find them poor support. The battle is still on. And planning, based on knowledge, will prove to be one of the most effective weapons in the fight.

# The Week in Textiles

## *as Reflected in This Issue*

## *General*

**Yarn Merchandising**

Leonard C. Linkroum outlines interestingly the evolution of a commission house in the yarn trade from the dealer and broker stages to the present method of selling for confined accounts. This is the sixth article in the series on yarn merchandising. *(page 20)*

**Forecasting for Production**

Pre-knowledge of production requirements to satisfy demand in the months of the immediate future is invaluable to the manufacturer who wishes to keep his inventory low. Methods of forecasting sales in order to guide production are described by Charles F. H. Johnson, Jr., of Botany Worsted Mills. The high degree of success of his method as applied to Botany production is a strong recommendation. *(page 22)*

**Message to Hoover**

As part of last Monday's Washington meeting of the National Conference of Business Paper Editors, seven editors of papers covering pivotal industries reported to President Hoover an answer to "What Is Holding Back Your Industry?" Douglas G. Woolf, editor, TEXTILE WORLD, stressed the progress of the textile field in the face of difficulties. *(page 25)*

**A "Secondary" Letdown**

While the severe recessionary phase of the business cycle has been completed, says Dr. L. H. Haney in the TEXTILE WORLD Analyst, we are now suffering a minor "secondary" letdown following the typical "pre-final" rebound which occurred in February and March. A period of dull, irregular readjustment seems to lie ahead. *(page 43)*

## *Cotton*

**A.C.M.A. Convention**

A large gathering was in progress at Augusta, Ga., late this week as we go to press, for the annual convention of the American Cotton Manufacturers Association. The keynote was "The Southern Cotton Farmer, the Producer of Our Raw Material." An interesting program had been arranged around this subject. Complete report of this meeting will appear in our next issue.

**Garside to Speak in Paris**

A. H. Garside, statistician of New York Cotton Exchange will deliver the chief paper at the Paris Cotton Conference in June on the causes of depression in the world cotton industry and remedies.

**Trends in Cotton Industry**

C. L. Emerson, vice-president and chief engineer, Robert & Co., Inc., in a paper delivered at A.S.M.E. meeting in Birmingham, Ala., prophesies betterment in human relations will be next great change. *(page 26)*

**Humidifying Picker Rooms**

Waste of humidified air in the exhausts of openers and pickers is eliminated by methods of recirculation. The most practical application of such arrangements is within the machines. *(page 28)*

**Spindle Oils Discussed**

Problems of the card room and spinning room, including the proper viscosity of spindle oil, were considered at the spring meeting of the Eastern Carolina Division of the Southern Textile Association, in Raleigh, N. C., April 17. *(page 34)*

**Variations in Yarn**

Procedure for tracing unevenness in combed peeler yarn to its many probable sources is carefully outlined. *(page 35)*

**Raw Cotton Indifferent**

It has been a week of narrow fluctuations in the raw cotton market. Selling on the advances holds back any possible gains, but some market authorities begin to believe that bearish possibilities have been discounted. *(page 47)*

**N. C. College Style Show**

A successful style show and exposition was held last week by the students of the Textile School of North Carolina State College at Raleigh, N. C. It is an annual affair. *(page 61)*

## *Wool*

**Blanket Manufacture**

Estimates are made for the cost of manufacturing two all-wool blankets. *(page 35)*

**Construction and Finish**

The construction and finish required to obtain the appearance desired in a submitted woolen fabric are outlined. *(page 36)*

**Warp Ends Lock**

Locking together of warp ends in the weaving of serge is caused by unsuitable sizing. A formula is recommended. *(page 37)*

**Murray Leaves Institute**

Bart Murray, managing director of the Wool Institute since Jan. 1, 1931, when A. D. Whiteside's resignation took effect, has resigned. No successor has yet been appointed. *(page 61)*

### The Textile Outlook

**AS FORECAST a month ago, the industry is now going through a testing period. The future is not known to either buyer or seller, but each is quite willing to build confidence if he can find the materials to build it of. So long as the buyer feels that delay may bring him lower prices and he is not pressed to acquire additional merchandise, he is justified in withholding his orders. If and when the manufacturer and his selling agent can develop trust that prices are at bottom, the market will go ahead once more. The delay may be extended, as no seasonal pressure is likely to make itself felt until summer . . . Complaint is current in cotton goods that profit margins have been eliminated despite a strong statistical position. In wool goods the hope for expanded consumer use due to low prices has brightened the future in both men's and women's wear. Raw silk has receded again which has not helped yarns or fabrics. Knit goods houses which are relatively close to the consumer have felt seasonal improvement with the first warm days of spring.**

## *Knitting*

**Full-Fashioned Narrowing**

The camshaft of the full-fashioned hosiery machine plays an important part in the narrowing of the stocking. Its operation is explained in detail. *(page 30)*

**Worsted Fabric Uneven**

Irregular yarn, unsatisfactory dyeing, bent latches, and enlarged hooks are suggested as causes for the uneven appearance of a worsted fabric. *(page 37)*

**Aftermath of Philadelphia**

Post-mortems on the Knitting Arts Exhibition in Philadelphia last week indicate that machinery manufacturers fared better than last year in regard to business actually done. Though the success of the show cannot fairly be measured solely in terms of immediate sales, it was encouraging to note that knitters seemed more "machinery-minded" than in recent years. *(page 55)*

**Warm Weather Aids Hosiery**

Movement of hosiery, especially women's full-fashioned, has been stimulated by the warm spring weather, and market tone has improved. *(page 55)*

**Underwear Futures Active**

Lightweight underwear is selling at high pressure, both in the cotton and rayon divisions, and some lines are sold out to June 15. *(page 55)*

**Swimsuit Prices Tighter**

Several bathing-suit producers have raised prices, suggesting a possible general advance, due to strong demand; stocks are moderate. *(page 55)*

## *Silk*

**Raw Silk Off 15 to 20c.**

Indifferent buying and Yokohama weakness have brought a recession of 15 to 20c. in silk prices, but importers hope for an early recovery. *(page 51)*

## *Textile Effort an Example to All Industry*

*Says R. H. Aishton*

**"THE vigorous and intelligent activity of the textile industry in analyzing its own problems and striving to find a sound solution for them is an example and encouragement to all industry," says R. H. Aishton, president, American Railway Association, Washington, D. C. "The discovery and the application of sound principles of business, based on facts developed, seems sure to bring justified rewards.**

**"I am sure that the textile industry has the sympathetic encouragement and may count upon the sincere cooperation of other industries in every intelligent effort to improve itself.**

**"I congratulate that industry upon its progressive action."**

**Thrown Silk Improves**

Call for thrown silk has registered a mild increase, mostly spot, and coming chiefly from broadsilk weavers. Spun yarn is quiet. *(page 51)*

**Shantungs, Chiffons, Moving**

Broadsilk tone is hesitant, and buying interest is limited to shantungs and summer chiffons, prices of which hold steady. *(page 53)*

**Bleaching Spun Silk**

A bleaching process is outlined to prevent overbleaching, discoloration, and loss of scroop in spun-silk fabrics. *(page 36)*

## *Rayon*

**Preparation for Knitting**

Harsh, wiry, and rough rayon is successfully knitted into half hose with the aid of a suitable emulsion. *(page 37)*

**Rayon Devoid of Profit**

Again market authorities stress the fact that present prices on rayon leave the manufacturers with no profit margin. Competition has been keen and even though volume is fairly large, rayon companies are not drawing any benefit from it except maintained operations. *(page 51)*

**Seeking Regenerated Silk**

German chemists are reported to be on the trail of a new synthetic fiber which will have as its base the animal-made fibroin of cocoon silk instead of the vegetable-made cellulose of rayon. Experiments with dissolving silk waste and regenerating it in a coagulating solution have been made. *(page 60)*

## *Processing*

**Hosiery Dyeing**

Methods employed in scouring hosiery depend on the type of fabric. Procedures are suggested for treating cotton, silk, and rayon goods. *(page 35)*

**Fabric Inspection**

Rapid and accurate inspection of fabrics is facilitated by a new examining and measuring machine announced recently. A unique feature of the equipment is a non-losable ruler. *(page 38)*

**Curled-Surface Fabrics**

Possibilities of producing curled or wavy effects on fibers which ordinarily are straight are increased with a continuous curling machine developed in England. *(page 39)*

**Air Conditioning**

Features of flexible unit of new design for filtering, washing, cooling, and humidifying air are described. *(page 39)*

### The Business Outlook

**THE slight spring stimulus seems to have spent its force by the latter part of March and business has been backsliding since. Our index has steadily declined during the last five weeks till, at 77.7% of normal, it is nearly back to the December low. Security markets have closely followed suit and commodity prices continue their relentless movement toward inconceivably low levels. Seasonal building improvement seems to be weakening again, and carloadings still show little more than seasonal recovery. Hope of reversal of the downward drift of steel production by May persists under expectation of larger structural and pipe-line demand, but marked increase in automotive requirements becomes doubtful. It now appears likely that first quarter business improvement was only a bump on the bottom and not the definitive beginning of recovery. The foreign scene has become clouded again. Our idle gold hoard piles up without increasing the means of payment by credit expansion.**

*—The Business Week.*

# YARN MERCHANDISING—TO

# Evolution of a Commission House

## *in the Yarn Trade*


***By Leonard C. Linkroum***

*President and Treasurer,*
*Paulson, Linkroum & Co., Inc.*


***Sixth Article in Series***

SOME ten or twelve years ago we functioned primarily as wholesalers, being really the spinners' customer, buying direct from the spinners in good-size quantities and distributing the yarn in turn to our customers.

Today, the bulk of our business is in selling yarn for confined accounts.

We would not, of course, have made any change unless we were convinced that changes were necessary and beneficial, but, in presenting this brief history of our background of reasoning, the writer has no intention of putting it forth as an infallible guide which others should follow. In fact, the whole problem of yarn merchandising is in a state of flux, and we realize that constant thought, discussion and interchange of ideas and experience are necessary.

In the old days the larger dealers thought nothing of buying large quantities of yarn when the market looked right, thereby running prices up to the advantage of the spinner. This naturally created more business as advance in price always increases buying volume.

From a dealer's standpoint this method of merchandising did not work out so well when cotton dropped from around 43c. to 20c. By comparison 20c. for cotton then looked low, and many dealers again placed orders. However, cotton further receded to 17c. and many thought then that the bottom had surely been reached—but the cotton kept on sliding downward. In other words, this method of your merchandising could be pursued with a fair amount of conservatism when the price of cotton did not vary greatly, but it was gambling in a big way when cotton fluctuated so widely.

From the spinner's standpoint, also, this method of merchandising had its flaws. This spinner knew nothing of where his yarn went and his only customers were a comparatively small group of dealers. When selling competition was keen, the spinner would come up north with his tail between his legs, knowing that he wasn't going to have much to say about the price he would get for his yarn. If he didn't sell at the price some dealer offered him, he didn't know how or where he could sell otherwise.

Most of the yarn houses did not want to do much gambling while the price of cotton was so uncertain and so began after the war to depend more and more upon making profits from commissions. We still maintained a warehouse, but it was mainly for the purpose of giving quick delivery service, and we expected to get a little better price for stock yarns. In general, when we booked an order from a customer we covered with the mill.

Competition, however, grew keener and spinners began getting in touch with customers direct. Knowledge of where their yarn was being used spread among the spinners, and the spinners' names became known to the customers. Some spinners started to sell their entire product direct, which was all right as long as they figured selling expense and credit risk properly, but some didn't. Most of the spinners, however, wanted to sell direct and also through any broker or dealer, at the same time.

### Mills Were Competing With Themselves

It is not the purpose of the writer to discuss how this works out for the spinner, but he knows that it wasn't satisfactory to him. With all dealers and brokers trying to sell the X Mill yarn and with the X Mill ready to step in and sell direct if possible, there was not much chance to talk quality to buyers and everything was price. A mill was really competing against itself, with so many offering the yarn, and it was also competing with us. As a result the fine art of giving away part, or all, of the commission thrived. Stock yarns were very often sold at prices below the market, instead of commanding a premium.

Recently, we have gone still further and now the bulk of our business is in selling yarn for mills which confine

**Herewith are presented the views and experiences of one commission house. Subsequent articles will cover different phases of yarn merchandising and give other opinions.—Editor.**

# REPLACE YARN PEDDLING

**"We act as a direct selling agency for a group of mills which, individually, would not have sufficient volume to warrant their own selling force. We can go out and talk quality and battle for a price with no fear that while we are doing so, some other broker or dealer will wire the mill an offer or that the mill will take off commission or brokerage if it gets the order direct . . . . We get plenty of competition, but at least it doesn't come from the same mill or the same yarn."**

**— Leonard C. Linkroum.**

their accounts to us. The mills believe, and we believe, that this is a logical method of merchandising. In reality we act as a direct selling agency for a group of mills which, individually, would not have sufficient volume to warrant their own selling force. We can go out and talk quality and battle for a price with no fear that, while we are doing so, some other broker or dealer, offering the same yarn, will wire the mill an offer, or that the mill will take off commission or brokerage if it gets the order direct. We feel that we can take the time to talk quality without wondering what is going on behind our backs. Naturally, we get plenty of competition, but at least it doesn't come from the same mill or the same yarn.

From the customer's standpoint, also, certain advantages are offered. The customer receives yarn from a known mill and the contact is a more direct one. The disconcerting possibility of having several different quotations on the same yarn is also avoided.

In making the various changes we had two objects in mind. In the first place, we have some pride and want to be known to the trade and to the mills as doing a good job of merchandising. In the second place, we are in the business to make reasonable profits. Any selling which makes price the one and only factor defeats both these objects. Consequently, what we have tried to do is to adopt methods of merchandising which will help both the mills and ourselves. When the giving away of commissions and like abuses reached a certain point, we thought that it was time to revamp. We don't think that we have solved the problem, but we do think that we are moving in the right direction.

Generally speaking, times are changing and people are changing, and the writer thinks that the old methods of merchandising yarn are going to be forced to the wall. Buyers of the newer generation are making their presence felt, and the younger generation in the mills is not content to hold to old methods, just because they are old. At the present time, it would help if there were more confidence between individuals in the trade. Both mills and selling houses are skittish about taking definite steps, but there has been too much fear and not enough knowledge. Once you know the other fellow's problems and give him credit for intelligence and a desire to do a good job, you aren't so afraid of working with him. Conditions of the past may have built up distrust among many in the yarn trade, but if we had more confidence in each other it would be better for all concerned.

We have changed our organization considerably and we think we are on the right track, but we intend to keep on thinking. The problem is too involved for anyone to sit back and say, "all my worries are over and everything is perfect."

# Forecasting Production Needs

## *in a Woolen and Worsted Dress Goods Mill*

*By Charles F. H. Johnson, Jr.*
*Botany Worsted Mills, Passaic, N. J.*

PREDETERMINATION or forecasting of sales in order to set a reasonable production rate became a necessity in the woolen and worsted goods industry several years ago when mills began building up inventories with little regard to the advent of a close hand-to-mouth system of buying on the part of the consuming trade. The progressive type of the management of Botany Worsted Mills was demonstrated in the excellent cooperation received from them in the compilation of a study aimed toward setting up a system of sales forecasting.

In a foreword to the worsted yarn study conducted by the Industrial Research Department of the University of Pennsylvania in 1929, Dr. J. H. Willits states the fundamentals of the general situation as follows: "In a buyers' market, when manufacturers cannot dispose of all they could produce, the importance of planning production policies in such form as to make for better coordination between production and demand, should be clear alike to owner, manager and worker. Without it such wastes as instability of operation and irregular employment, and their usual concomitants, low profits and low wages, are inevitable. The first step in making such individual planning more sensitive to general conditions is obtaining the facts which show trends and tendencies in the whole industry."

Study of this worsted yarn survey was stimulating as showing efficacy of an industry-wide movement. Application of the same method to Botany's problem encountered the difficulty of securing comparative figures from other concerns. It consequently became necessary to concentrate our attention upon Botany's own sales experience and to relate this where possible to such industry-wide statistics as were available.

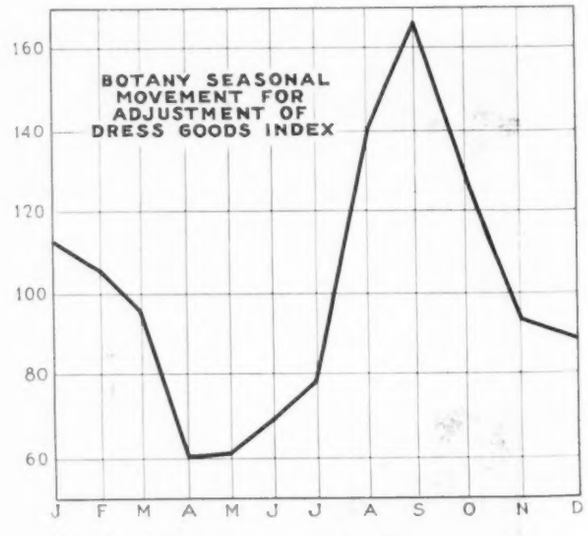
The first general survey showed that Botany had followed the industry downward, but that the general fall always came before the Botany fall and that Botany had always taken a small rise before the rest of the market. In women's wear Botany sales follow the price; that is, when the price is up one month, the sales are up the next. In men's wear, in 16 out of 24 cases, opposites have occurred. That is, when price goes up, sales the next month go down.

### Forecasting Department Set Up

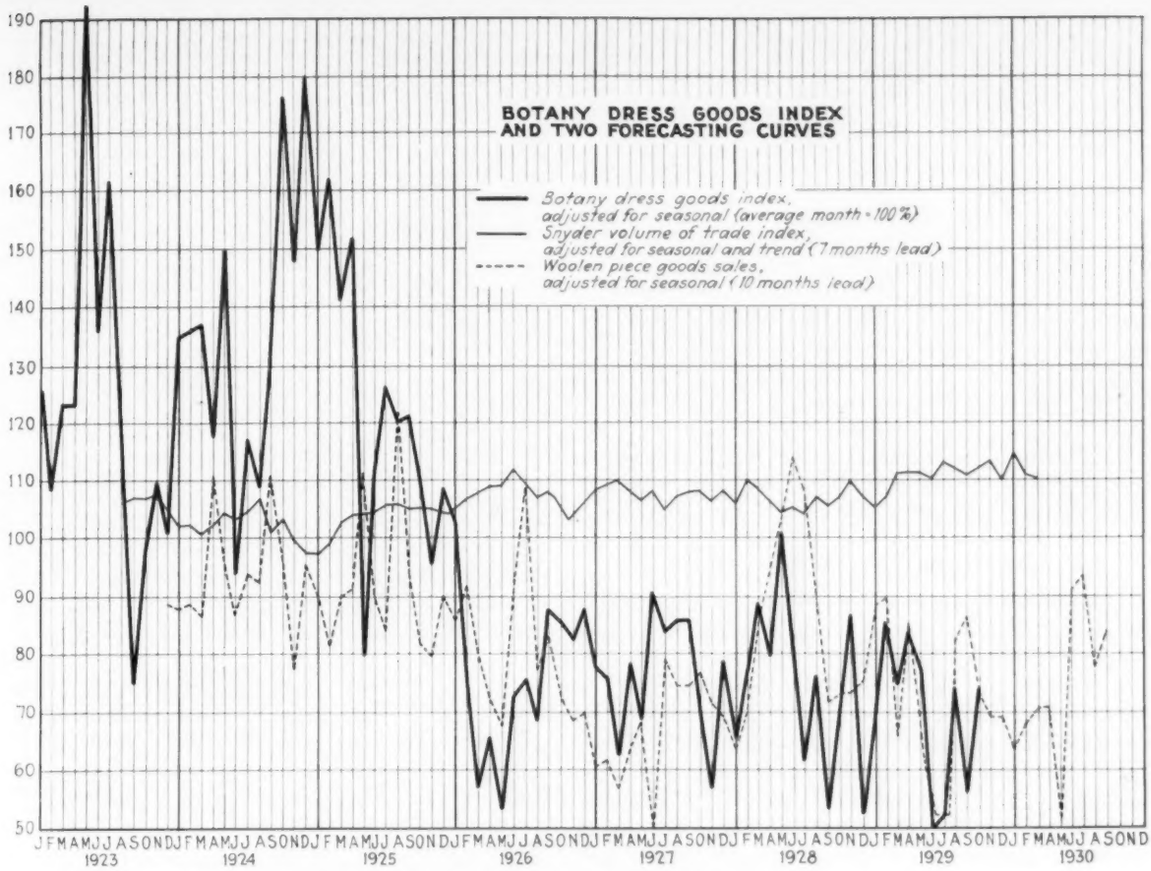
The first recommendation involved setting up a forecasting department which should keep accurate monthly charts and records of Botany sales and industry sales, variously subdivided, and charts on wool consumption, the business cycle and seasonal trends. In women's wear two peaks each year were noted which usually spread over two months, thus giving a one month anticipation of what was coming. In men's wear there were four peaks per year of much shorter duration, consequently in that field the mill which knew what was coming would be able to make the best of the business.

In our first effort to forecast Botany sales we set to work on a plan whereby Botany figures, by a series of compensating averages, would present some semblance of a forecast. The pitfall to avoid here was that of setting up merely a general average figure. This was successfully avoided by using the last six months' trend as an indicator affecting the ensuing months' forecast. The first forecast made on this basis was for September, 1929, and it proved to be 24% above what actually occurred. The second month, October, was 9% too low. The November prediction was only 4% below actual and the December figure was practically correct, being only 0.08% below actual.

This first forecast method used a purely mechanical formula. That is, to calculate the advance figure, one would merely combine essential factors in the mill's performance with a set formula and grind out the forecast. It worked on two principles: First and most important, the old standby of past performance; second a factor was based on present performance, that is, how figures




*Graph of Botany seasonal movement which is basis for adjustment of index*


BOTANY DRESS GOODS INDEX
AND TWO FORECASTING CURVES
Botany dress goods index, adjusted for seasonal (average month = 100%)
Snyder volume of trade index, adjusted for seasonal and trend (7 months lead)
Woolen piece goods sales, adjusted for seasonal (10 months lead)
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1923
1924
1925
1926
1927
1928
1929
1930

*The forecasting chart showing Botany index and two of the four forecasting curves*

are compared for last six months and the difference between the present month and the last month.

The final figure was arrived at through four primary calculations, based on twelve secondary calculations:

First, a figure showing the difference between this month, say April, and six months ago, November, compared with the gain or loss in the corresponding period for the last five years.

Second, a figure obtained by applying the difference between this period and the earlier period to the first figures secured.

Third, a figure obtained by using the same method as in the first figure, but substituting the month to be forecast (as obtained at first) for the present month; and calculating the same way, that is, substitute May for April and December for November.

The final figure is an average.

Although this method showed remarkably accurate results, it was about this time superseded by a graphic system using index numbers. The principal fault of the first system is the fact that it does not consider outside conditions. It was primarily a "seasonal forecast," and it was necessary to look further for another method to support it or to fall back upon in case of failure.

### Sound Statistical Basis Required

It was suggested that something along more sound statistical lines would be more trustworthy, so with the Botany's dress goods sales index adjusted for seasonal variation as a base, we proceeded to find a correlation with some other phase of the textile industry or of general industry, which would lead the Botany chart and so serve to forecast sales and thus to guide production. This was done by charting various sets of figures upon transparent paper and by moving them over the Botany charts as a base to seek some correlation between them. Fifteen sets of figures were compared and a fair degree of success was attained with four of them. The useful charts started with their Januaries on various months of the Botany chart.

After a Botany dress goods index had been forecast it was of course necessary to translate it back into yards to make it useful to the management. This original information was submitted to the mill, whose management saw its possibilities and gave instruction to go ahead.

The various curves used for forecasting the Botany dress goods index are taken from various sources, and it might be well to know a bit of their history.

### Activity and Consumption Index

The first curve found useful is called the Wool Mill Activity and Consumption Index. It is a composite figure of wool machinery activity, which includes as per record book of statistics for December, 1927:

"The comparable series consists of data originally collected by the Department of Agriculture, from which the estimates have been deducted from October, 1920, through April, 1922, and thereafter of the compilations of the U. S. Department of Commerce, Bureau of the Census, from which about the same firms were missing, usually between 10 and 20. These data represent about 80% of the industry as reported by about 600 manufacturers. The original data are reduced to grease equivalent by multiplying scoured wool by two and pulled wool by one and one-fourth. The wool is considered as consumed when it passes through the combs, cards, or gill boxes, and only raw wool is included in these re-

ports. The reports thus include all grease, scoured, and pulled wool entering into the process of manufacture, or wool consumed in manufacturing plants, but does not include wool scoured during the month but not actually entering into the process of manufacture."

The index is published by Standard Statistics Co., New York, in its industrial section, but it does not publish its method of combining the figures from which are obtained the relative number nor the weighting of the comparative series. It is on a 1926 base, with the seasonal factor removed. It has not been adjusted by the removal of secular trend. There is great doubt of the probability of any such trend in this case as we are dealing with a subject that would fluctuate with new replacements and other factors that would belie any secular trend. This curve has a 10-month lead on the Botany series and checks very well on the extreme peaks and lows, which are quite pronounced on this curve.

### Wholesale Price Index

The second curve used is called Wholesale Price Index of Woolen and Worsted Goods and is made up from another index figure published in Standard Statistics Industries Section. It is adjusted for seasonal, and, as in the case of mill activity, it is on a 1926 base.

It includes all the available data on woolen and worsted prices, and from checking up and discussing with expert advice it is a very representative figure. The index appears to have no secular trend and has not been adjusted for secular trend. Its fluctuations are not nearly so violent as the preceding curve. It has a seven-month lead on the Botany index.

### Snyder Index of Volume

The curve of the Snyder Index of Volume of Trade is found in the Journal of the American Statistical Association and is the second revision of that figure. In this index are 58 individually computed series. These are computed from the normal rate of growth or trend of past years. The series is revised each year. Each series in the total figure carries weight according to its importance, of which woolen mills alone carry a weight of 6 points out of 100.

It was selected mainly because it is such a representative figure and proved itself valuable in use. It is adjusted for seasonal variations and hence should give as pure a picture of the business cycle as is possible to get. It is an intermediate curve, neither radical nor flat. It leads Botany by seven months but as it is available a month later than Botany, the forecast is limited to six months.

### Woolen Piece Goods Sales

Our last usable index is that of Woolen Piece Goods Sales. This figure was made up from a table of percentage deviations as published by the Federal Reserve Board of New York. It was converted to a relative number by the use of an average month as a base, thus eliminating seasonal at the same time as making the relative number.

This is the most limited figure of those used as far as scope is concerned and it would be useless alone. This deals only with wholesale sales reported by the New York Federal Reserve Board, but, as New York is the greatest market for Botany goods and as most other centers follow New York, it seems that its use here is warranted. The curve leads Botany by 10 months.

The discarded series are Retail Department Store Sales and Dry Goods Sales which were taken from Standard Statistics Industrial Section, and were adjusted for seasonal and computed on a base using the years 1923-1925 as average. The Index of Factory Payrolls was also adjusted for seasonal and was taken from the Federal Reserve Bulletin.

There were also six other unused series taken from the Federal Reserve Bulletin, Federal Reserve reports and Standard Statistics. To save possible work along these lines in the future they are mentioned here: Narrow and Wide Loom Index, Composite Loom Index, Women's and Misses' Ready-to-Wear Sales in New York and Boston, and Federal Reserve Employment Index.

### The Botany Curve

The Botany curve is the result of applying a time series analysis to yardage figures representing Botany figures. It is adjusted for seasonal, which is a very large factor in Botany as shown on page 22. Secular trend is so small as to be negligible. The final steps in the derivation of the Botany index are as follows for 1923:

| Month | 12 Months Moving Average Centered, % of Actual | Divided by Seasonal | Final Botany Index Figure |
|---|---|---|---|
| 1923 | | | |
| January | 143 | 113 | 127 |
| February | 116 | 106 | 109 |
| March | 117 | 96 | 123 |
| April | 74 | 60 | 123 |
| May | 124 | 61 | 203 |
| June | 94 | 69 | 136 |
| July | 128 | 79 | 162 |
| August | 165 | 140 | 118 |
| September | 124 | 166 | 75 |
| October | 124 | 128 | 98 |
| November | 102 | 93 | 110 |
| December | 90 | 89 | 101 |

### Making a Forecast

In making a forecast all our ingredients come together and our compound is described. The story is told in reverse order, e.g. from the end to the beginning.

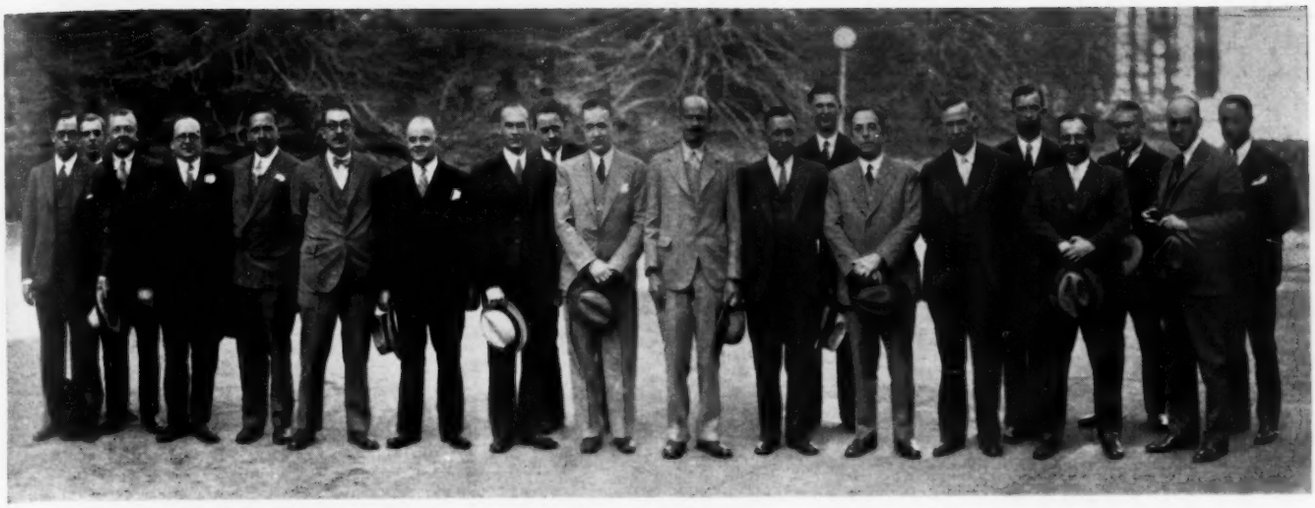
The method of forecasting is as follows:

The Botany curve on the graph is carried out to correspond to the accompanying curve of each graph in the same relation that the two have maintained in the past. The relative number for each month is then read off the chart and noted, e.g. the Snyder Index, November, 1929—78, December, 1929—65, January, 1930—90, (an unusual jump in Snyder here), February, 1930—71, March, 1930—68, April, 1930—70. In this same manner the process is repeated for all four of the forecaster charts. For November, 1929, we therefore have the following readings from the forecaster charts in terms of Botany Index relative number:

| | |
|---|---|
| Snyder Index | 78 |
| Wool Piece Goods Index | 69 |
| Wholesale Price Index | 59 |
| Mill Activity Index | 60 |

This gives an average relative number for November of 66.5 We now have the actual relative number for November sales. The formula of the original Botany change-by-time series and seasonal adjustment is now applied. The original, being a monthly figure, divided by average for all months divided by seasonal equals index number. Reversed we take 66.5 times seasonal for November, which is 93, this equals approximately 62.

*(Continued on page 67)*



*Members of the National Conference of* ***Business Paper Editors*** *gathered on the lawn of the White House just before their meeting with President Hoover last Monday*

# Tells President Hoover *of Textile Progress*

THE textile industry is making progress, President Hoover was told Monday of this week by Douglas G. Woolf, editor of TEXTILE WORLD, at a White House Conference of the National Conference of Business Paper Editors.

Seven member-editors representing key industries, reported to the President on the specific question: "What is holding back your industry?"

### Textiles Are Going Ahead

Speaking for textiles, Mr. Woolf said:

"The textile industry is not being held back. It is going ahead faster today than at any time in the last 10 years. Certain of the retarding influences have been removed. Here are a few of the constructive steps taken recently: (1) The decision to end night employment of women and minors in cotton mills; (2) the reduction in hours of labor through voluntary adoption of a uniform maximum work-week; (3) the courageous attempts to balance production with demand, on the basis of better statistical information.

"The effect has been apparent. In cotton goods, for example, sales during the first quarter of 1931 were 25% in excess of production. Stocks on hand at the beginning of the year were 26% in excess of unfilled orders, while at the end of the first quarter unfilled orders exceeded stocks by 37%. Textiles, long one of the darkest spots in the industrial picture, have been hailed recently as one of the most encouraging.

### Only Two Inhibiting Factors

"But, while the industry is going ahead, all the brakes are not yet off. Two major inhibiting influences may be cited, both based fundamentally on lack of a merchandising-mindedness.

"The first is a defeatist attitude on prices. If volume of demand slackens, sellers become panicky. Price-cutting below profitable levels ensues. This is a psychological hang-over from years of depression. The industry has yet to learn that the American public is willing to pay a fair price for the fabric of its clothing—a price which will pay a fair wage to textile mill workers and a fair profit to mill owners.

"The other brake on the industry's progress is lack of individual planning. Manufacturers have learned how to adjust their output to meet current changes in the demand curve but they have not learned the necessity of budgeting sales at the beginning of a year and spreading the production, required by that budget, uniformly over 52 weeks, in order to insure regularity of employment. The industry has displayed heroism in meeting situations but no one wants to be heroic all the time. It now needs a little wisdom by means of which it can anticipate those situations.

"I believe it will slowly acquire such wisdom. My main reason for holding that belief is the fact that, during the last year, the textile industry in its group thinking has displayed some interest in where it is going. I believe that interest will spread to a larger percentage of the individual mills."

# *Trends in Cotton Textile Industry Promise Betterment in* Human Relations

*By C. L. Emerson*

◆*Scientific methods and technical study have provided the textile industry with excellent machinery and with building and auxiliary services which afford satisfactory conditions for its efficient operation. Recently these same methods have been directed toward improvements in the human element in mill operation. The accompanying article is abstracted from a paper contributed by the Textile Division of the American Society of Mechanical Engineers for presentation at the semi-annual meeting, held April 20 to 23, 1931, in Birmingham, Ala. Mr. Emerson, who is vice-president and chief engineer, Robert & Co., Inc., covers in a comprehensive manner the past progress and future possibilities in design of machinery and buildings, humidity and heat control, housing of employees, solution of the labor problem, and research.*

THE initial process in the cotton mill, that is, the opening of the bales, felt the first impetus of development. The entire mill operation was bettered by a more thorough cleaning of the fiber before it reached the picker room. Among the machines introduced were vertical openers, beaters, and air cleaners.

Most mills formerly used three lines of picking machines in series. This practice is being superseded by the one-process machine which during the last year or so has found universal acceptance. This picker not only materially reduces the labor required, but also produces a cleaner and more uniform lap for the card room.

In spinning, long-draft equipment has made a definite place for itself. This device has roughly doubled the amount of drawing out done on the spinning frame, and thereby reduced the amount of preparatory equipment needed between cards and spinning frames. Old mills installing long draft need to make a complete restudy of these preliminary operations. Long draft has resulted in a more uniform yarn and reduced the requirement for operatives in the preliminary processes.

The system of warping and spooling which was in general use ten years or more ago is now entirely obsolete. High-speed spoolers making disk-shaped packages for use in specially designed high-speed warpers, or else special winders with warpers of the usual type but redesigned for high speed, have replaced them. On account of the large hourly production the number of machines required has been reduced, with a corresponding reduction in operatives and required floor space.

Past experimental work is bringing us today for acceptance a new type of carding machine with less than half as many flats as the present design, and also a clothing of straight wire which may not require as much cleaning. A subsidiary device is offered which strips continuously with the card in operation.

A new type of automatic loom is about ready for the market which, among other advantages, permits higher picking speed on account of its heavier design, and which has a device to divide the warp as an indicator at the broken thread.

Thanks to redesigns over the last ten years, machines are now available which in general have heavier construction, more accurate fits, more precision in operation, and other features that permit higher operating speeds. A feature of many redesigns has been the incorporation of anti-friction bearings.

Development goes on, and we look to the future for still better equipment. Experiments are being made to apply longer drafts to drawing frames. There are interesting possibilities in the use of materially larger packages in spinning, although any great advantage here may necessitate new materials for rings and travelers, or else some new device to replace the traveler.

A still more remote possibility is the combination of two or more operations into one by the production of a new machine. Slubbers, intermediates, and roving frames might be thus combined, or the spinning frame and spooler be put together to produce a package going direct to the warper creel.

### Village Housing

A peculiarity of the textile industry, particularly in the South, has been that each development required the

construction of a small city to house its employees. The improvement made in the living conditions in these mill communities is perhaps the most striking change in the industry during the last few years.

Most of the recent villages supply every house with water, electricity, and plumbing. There must also be garages for the cars of the operatives. Some or many of the following features are always included: churches, stores, motion-picture theaters, schools, auditoriums, natatoriums, lodge rooms, gymnasiums, and community houses. Street improvements, including "White Way" systems, paving, and landscaping, are not uncommon. The miniature city is becoming quite up to date.

Cottages have usually been of frame construction, although recently quite a few have been of brick veneer or stucco on hollow tile; but the saving in maintenance, depreciation, and fire risk of the latter types does not compensate in dollars and cents for the greater first cost. The housing development has become so expensive that any extra cost per room must be avoided. In the effort to obtain the advantages of brick construction at a cost comparable with frame, many experiments have been made. That offering the greatest possibilities for the future seems to be the use of a loose wall construction of hollow cinder-concrete blocks covered and cemented together with gunite. This spraying of concrete through a hose with compressed air increases the rapidity of construction and reduces the requirement for skilled construction labor.

*Ewing Galloway*

### Buildings

Beginning some fifteen years ago, two trends came into play affecting building construction. One had to do with the substitution of more imperishable materials for wood; the other with providing better working conditions for the employees.

It is unnecessary to catalog the various steps in this progression, but considering present practice we find cast-iron pipe or structural-steel columns in place of wood. The difficulty in obtaining large timbers of long-leaf pine has led to the substitution of steel-beam or beam-and-girder construction. Steel sash is now almost universally used. Concrete has also had a share in replacing wood and, to some extent, brick in foundations, column footings, window sills and lintels, stairways, platforms, floors in exterior towers, etc. Wood is retained only for main floors and roof plank. Its resilience and economy as compared to concrete keep it in favor here.

Great improvements, particularly in the last few years, have been made in the conditions under which labor performs its tasks. Column spacings have been extended from 8 to 20 ft., and ceiling heights from 10 to 17 ft. This gives an opportunity for large windows, and in certain modern mills 58% of the side-wall area is glass. The natural lighting is most excellent, and ventilation has been improved. On upper floors it is customary to provide large monitors which still further help the circulation of air. In one-story weave-sheds and in finishing plants, sawtooth construction is frequently used which, while somewhat costly, is particularly advantageous for both light and ventilation.

The most recent development has to do with an increased demand on the part of many owners for architectural excellence as well as engineering correctness in their structures.

The trend toward the use of structural steel may result in the future in its substitution for the present brick bearing walls. The curtain walls surrounding the sash may still be of brick, or if the cost of labor or material for brickwork advances, a substitute may be found in hollow wall faced on the inside and outside with cement blown in place from a cement gun.

Appreciation of the importance of various auxiliary services in obtaining better, larger, and more uniform production has grown remarkably in the last decade. Cotton processing is sensitive to humidity conditions, and these fluctuations would affect the operations adversely. Automatic heat control has taken over this situation. The steam is turned off and on by a diaphragm valve operated by compressed air. This in turn is controlled by a pilot valve operated by a thermostat. Unit heaters should be mentioned as one of the newer developments in the heating system. The most recent improvement made is the application of humidification to picker rooms. The improvement in the control of the operating speed of the textile machinery is to be attributed largely to the work of the manufacturers of motor equipment.

There is at present a strong tendency to build the motor into the machine as an integral part of it.

### Labor

Scientific methods and technical study have now provided the industry with excellent machinery, and with buildings and auxiliary services which afford satisfactory conditions for its efficient operation. It is only within the last few years that the same methods have been directed toward improvements in the human element in mill operation. The next great change in the industry will probably have to do with this human element rather than with equipment or buildings.

These studies in "humanics" will undoubtedly include a more scientific and careful selection of those employed, a systematic program of training them not only for their particular tasks but for advancement, and also various forms of incentives to increase their interest and effort.

### Research

The textile industry has not utilized research to the same degree as have, for instance, the electrical or chemical industries. While some of the larger units in the textile field have well-equipped testing laboratories, where some practical research is done, there has been no organized cooperative research by the industry. It may be that any extensive research effort will have to wait for years, but interest is being awakened and opinion directed toward such a program.

# Humidification of Cotton Picker Rooms Made Practical

*By Norman E. Elsas*

*Secretary, Fulton Bag and Cotton Mills, Atlanta, Ga.*

◆ *Control of humidity in the picker room has been found difficult and expensive because of the waste of humidified air in the exhaust from the machines. In the accompanying paper, which was presented by Mr. Elsas before the meeting of the textile division of the American Society of Mechanical Engineers in Birmingham, Ala., this week, methods are explained by which this waste is eliminated through recirculation of the air.*

THE United States Department of Agriculture has set forth the fact that it considers the cotton fiber in its normal condition when it contains 8½% by weight of moisture from the bone-dry condition. Throughout the Southern States the meteorological bureaus have indicated a variation of relative humidity that would indicate a "regain" as low as 1½% to as high as 13%. With this variation before us, it is evident that there can be a variation in the weight of any given amount of cotton by as much as 10% on account of the moisture content alone. These extremes of atmospheric condition will often take place within a space of 48 hours. In the event that there is a widely different amount of moisture contained in the cotton itself, does it not seem rather futile that the mill men have attempted to hold lap weights within a variation of less than a quarter of a pound from a standard?

With the thought in mind that this condition could be greatly improved upon, study was given to some manner of controlling the atmospheric conditions in the picker room. One of the first ideas that occurred was to determine upon some means of recirculating the air that was exhausted to the dust pit, after relieving this same air of the dirt and lint. The opinions of the many different companies that were approached for accomplishing this were all rather dubious and indicated an expense far beyond any practical amount.

The next idea was to so condition the air introduced into a picker room that it would be unnecessary to recirculate the air discharged through the picker fans. This second thought was taken up also with various other requirement manufacturers, and this cost was also found to be quite excessive.

For the information of those not familiar with the amount of air normally handled by an individual picker it should be stated that each picker fan handles a minimum of 1200 to 1800 cu.ft. of air per minute. The normal picker room for many years has contained three picking operations, Southern mill operations requiring approximately twelve finisher pickers to take care of 50,000 spindles. In addition to the finisher pickers there were as a rule twelve intermediate pickers and approximately eight or ten breaker pickers. The total number of fans operating, therefore, exhausting air from the picker room, would be approximately 32 to 34, moving over 40,000 cu.ft. of air per minute.

### Regain Indicators

Several attempts were made to control the weight of laps indicated by the lap scale, to make due allowance for the relative-humidity changes in the atmosphere. Several scales were drawn up, so that an indicating hand could be set on the lap scale to allow for "regain" as indicated from a relative-humidity scale. There also was brought out an accurate type of indicator that will read "regain" directly for the indicator on the lap scale. Devices of this kind must necessarily depend on human supervision. The importance of accurate moisture-content regulation in laps going to the card room warrants close control. Certainly these devices are better than none at all, and quite satisfactory results can be obtained where consistently followed up by the management.

Before leaving the matter of devices that will aid in the maintenance of even numbers through the spinning, it is well to mention "evener drawing." One of the best mills in this country does not attempt to weigh laps except once a day in order to check on the different machines to see that they are in reasonable adjustment. They then make no attempt to hold the sliver from the cards to a definite number of grains per yard. They do use two processes of drawing, however, the first drawing being of the ordinary type, but the second drawing being "evener drawing." Of course by the time the cotton fiber has reached this second process of drawing, the amount of moisture contained is quite uniform and in accordance with the controls operating throughout the card room. Therefore the "evener drawing" can be made to operate quite satisfactorily to eliminate any unevenness in the weight per yard of the various slivers being fed to it.

Evener drawing is quite expensive, however, and certainly too expensive for a mill already in operation to install at the expense of throwing out otherwise satisfactory drawing frames. In addition, "evener drawing" requires considerably more attention on the part of the section men and fixers and a higher cost of upkeep in operation.

### Recirculation Within Picker

The first really practical method of controlling the amount of moisture in picker laps resulted from the development in recirculating the air necessary for picker operation, within the picker itself.

The idea which started the investigation of recirculat-

ing the air in a picker began with accomplishing this in a soft-waste machine. In one mill it became necessary to move a soft-waste machine to a new location, and the suggestion was made to put it on one of the upper floors of the mill where it could be in proximity to the point producing the soft waste. It then seemed difficult to connect this machine in its proposed location with the dust pit. Since all the stock to be fed through the machine is free from dust and trash, it seemed possible to recirculate the air within the machine. It was then done by mounting the machine on skids and flooring with sheet metal. In addition, since soft-waste machines are a continual source of fire, which spreads throughout the dust pit, this trouble was eliminated.

This was the basic idea on which further developments were carried out.

For the past ten years tremendously rapid strides have been made in the opening processes, in an effort to eliminate as much of the undesirable fiber and foreign matter as is possible before the stock is fed to picking equipment for making into a lap. Most remarkable results have been obtained in this field, it being possible now to deliver stock that is practically free from all dust, which would often form a vertable cloud in many card rooms.

With the ability to eliminate dust and the heavier types of dirt in the opening processes, it becomes evident that the air being discharged by the fans in the final picking operations was relatively clean. In fact it is quite feasible for one to breathe comfortably the air being discharged from a picker where the opening processes are efficient.

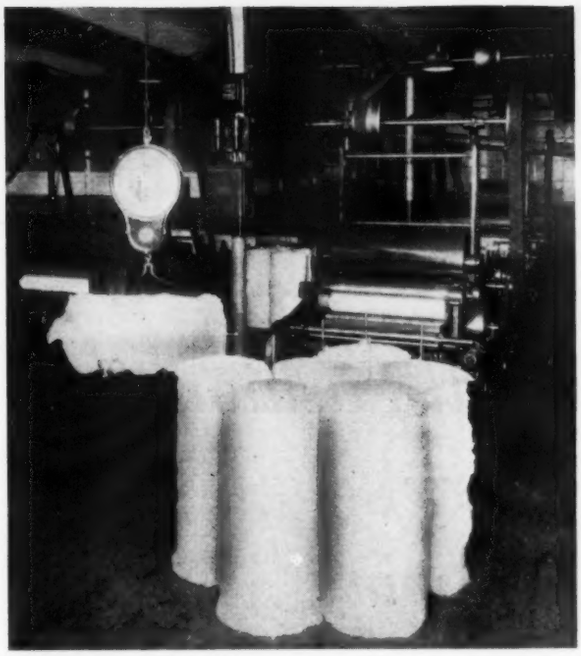
It was necessary to experiment to a great extent to develop the proper type of baffles and air passages to insure performance in a picker set-up to recirculate its own air, equal to that obtained from a picker discharging normally into the dust pit. This has been finally accomplished, and continual watching and testing have shown the laps produced on recirculating pickers to be indistinguishable from those produced on the pickers operating in the usual way in the same normal atmosphere.

After equipping a complete picker room with the recirculating device, it was than only necessary to install sufficient humidity and proper automatic control to maintain an approximately constant "regain" in the cotton. Satisfactory results were noted immediately, and they have been continually obtained over a period of more than two years. The necessity for continually changing the draft gearing on drawing and subsequent operations was immediately cut to about 10% in number and magnitude.

An important direct saving from the use of recirculating pickers is the elimination of enormous demands for heating steam during cold seasons. The heating of thousands of cubic feet of air per minute in freezing weather is no little expense. This heating also adds a variation factor to the moisture content of the cotton, which must be corrected in the gearing changes later.

### Return to Opener Room

A feature of controlling the humidity in the picking and opening departments that it might be well to mention is the necessity in most mills to transport cotton by means of a condenser from opening equipment or from bins to the final distributing device over the pickers. This cotton has already been thoroughly cleaned in the opening processes, and the atmosphere in the opening room or the bins may be held to a constant relative humidity. Naturally to draw the air from the bin room or the opening



*It is futile to hold lap weights to a quarter-pound variation from standard?*

room and to discharge it into the dust pit through a condenser located in the picker room itself would constitute a loss in humidity that would have to be replenished by excessive humidifying capacity in the bin or opener room. To prevent this it was found that exhaust from the condenser fan could be returned to the room from which the condenser system is fed, by enclosing the mouth of this discharge pipe in a long burlap bag. This burlap bag acts exactly in the same manner as the ordinary vacuum cleaner bag familiar to every housewife.

Many mills provide bins in which cotton is allowed to age after passing through the opening and mixing processes, before being fed to the pickers. Where there is considerable variation in the moisture content of different bales, excellent results can be obtained by having the humidity in the bin room controlled to give a 7½% "regain" and by having fans mounted on the bin walls so as to cause a constant circulation of this controlled air over the stock in the bins. The circulation has little effect on cotton at the bottom of a pile in a bin, but it is exposed a sufficient length of time to the controlled atmosphere while the bin is being filled and emptied.

When cotton contains upward of 10% of moisture, there is a strong possibility that some inexpensive method of drying this excess moisture would be of material assistance before the picking operation. Rather crude experiments have been carried on in direct manner to accomplish this where cotton is conveyed over a reasonable distance to a condenser. The method pursued is to pass the air feeding into this conveyor pipe over hot coils that immediately bring the "regain" of air in the pipe down well below 5%, regardless of outside conditions. Naturally, this air being quite warm and in intimate contact with the loosened fibers during the conveying process, a good deal of moisture is removed from the stock. In addition, this hot blast of air must pass through the cotton deposited on the condenser screen before it can be released to the dust pit, so that some additional elimination of excess moisture takes place at this point.

# Action of Camshaft *in Full-Fashioned Hosiery Narrowing*

*By M. C. Miller, M. E.*
*Mechanical Engineer, Manville, R. I.*

IN ANY operation of narrowing, the machine must make one turn of its camshaft 1 (Fig. 32)—therefore consuming the same period of time as when making a course of loops in ordinary knitting. In a narrowing cycle, however, knitting does not take place. For this reason, the yarn carriers are not traversed, nor do the slur cocks function on the jack sinkers. In order that these motions may not occur during the narrowing, means are provided for unclutching the Coulier motion, which, it will be remembered, is the mechanism that causes the traverse of the yarn carriers and slur cocks.

The Coulier clutch is shown in Fig. 32, in which 1 is the camshaft. On this shaft are fastened all the cams of the machine. As shown in the drawing, the camshaft is to the left, in which position the clutch 2 drives the Coulier pinion 3. This pinion, meshing with the bevel gear 4, drives the Coulier camshaft 5. It will readily be seen from examining this drawing that, if the camshaft 1 were to be moved to the right, the clutch 2 would disengage from the pinion 3, due to the disengagement of the driving surfaces 2*a*. The spring pin 2*b* is provided to cause the Coulier motion to work backward, in case the operator, for the purpose of adjusting the machine or for other reasons, manually turns the machine backward, and with it the camshaft 1.

If the clutch were not provided, when the camshaft is shifted to the right the circular wedge piece 6 would cause the brake band 7 to be applied to the periphery of the Coulier-motion gear by operating under the brake roller 8. This would fulcrum the brake lever 9 on its fixed pin 10. In this manner the Coulier motion, as the drive clutch 2 is disengaged, not only is disconnected from the driving means, but is also held by the brake bands 7 from accidentally moving. Such movement, even though it were very slight, would be detrimental, because it would disturb the carriers and their yarn tubes, which must stand exactly between two jack sinkers during the narrowing. This Coulier clutch brake and drive are also shown in the photograph in Fig. 33.

### Camshaft Shifting Motion

In order that the camshaft 1 may be moved endwise, there is provided at one end of the machine, usually on the left-hand end, a camshaft shifting motion, which is shown in detail in Fig. 34. It consists of a pair of discs 2 and 3, between which is mounted a roller 4, carried free to rotate in a very rigid and heavy lever 5. This lever is supported on a pin 6 carried in bearings 7, which are rigidly fastened to the front rail of the machine.

The lever 5 is free to move with its roller toward and from the camshaft 1. When the camshaft is in its position toward the left, as shown in Fig. 34, its roller 4 prevents endwise movement of the shaft 1 by contacting with the surface of a cam 10 and the side of the disc 2. A spring 8 tends to draw the roller 4 toward the camshaft 1 and in engagement with the shifting cam 9, but is normally prevented from doing so by a latch 11, which engages with an extension 5*a* of the lever 5. The latch 11 fulcrums on its stud 12 and is fitted with an extension 11*a* and depending finger 11*b*, its own weight holding it normally in contact with the extension 5*a*.

In order to unlatch the lever 5 at times so as to permit its roller 4 to engage with the shifting cam 9, there is provided a sprocket wheel 13, which carries a chain 14, a ratchet 15 forming part of the sprocket. There is further provided a suitable racking pawl 16, which is operated by its lever 17 and roller 18 at each turn of the machine. It is normally prevented from racking, however, by an extension 16*a* of the pawl 16 resting on a bump or cam removably fastened to the chain 14. While the pawl is so raised, it is incapable of engaging with a new ratchet tooth, and during that time the chain is not being racked.

In order to start the chain racking, which is necessary just prior to the time the machine is to narrow, the operator pushes down on the foot pedal 19 and in this manner causes the pawl 20, which is attached thereto, to engage with a tooth of the ratchet 15. This causes the idle bump of the chain to come out from under the latch extension 16*a*, so that at the next turn of the machine the chain-racking cam 21 will cause the roller 18, with its lever 17, to move the pawl 16 and in this manner rack the chain one tooth for each turn of the machine until such time as another idle bump comes under the extension 16*a*.

During such racking, suitable bumps or cams are provided on the chain for acting on the end 11*b* of the latch 11, causing this latch to disengage from the extension 5*a*. This permits the roller 4 to move toward the camshaft 1 and so come in line with the shifting cam 9 and out

●

**This article concludes the series describing the principles on which full-fashioned hosiery machines operate. Mr. Miller will shortly begin a new series of articles on the correct setting and maintenance of full-fashioned machinery parts.**

Previous articles of this series appeared May 31, July 26, Oct. 4, and Nov. 29, 1930; and March 21, 1931. Diagrams are by the author, and photographs are courteously furnished by the Textile Machine Works.

of line with the cam 10. In order to limit the movement of this roller 4, there is provided an adjustable extension 5*b* to the lever 5 which strikes against the base of the fixed support 7. The movement inwardly of the roller 4 is so timed, of course, as to occur in advance of the rise of the cam 9.

Upon further rotation of the camshaft, the roller 4, being now in line with the cam 9 and out of line with the cam 10, the rise of the cam 9 will contact with the roller 4, thereby causing the camshaft 1 to move to the right an amount equal to the thickness of the cam 9. The disc 3 prevents over-shifting, while the surfaces of the cam 9 and the disc 3 hold the camshaft 1 in its shifted position to the right.

The time of this shift must occur at exactly the end of the traverse stroke of the yarn carriers—if anything, slightly before the end of the stroke. In no case can it be late enough to cause the yarn carriers to reverse their motion even the slightest amount, as this would cause the tube of the carriers to be shifted from their exact stopped position between two jack sinkers.

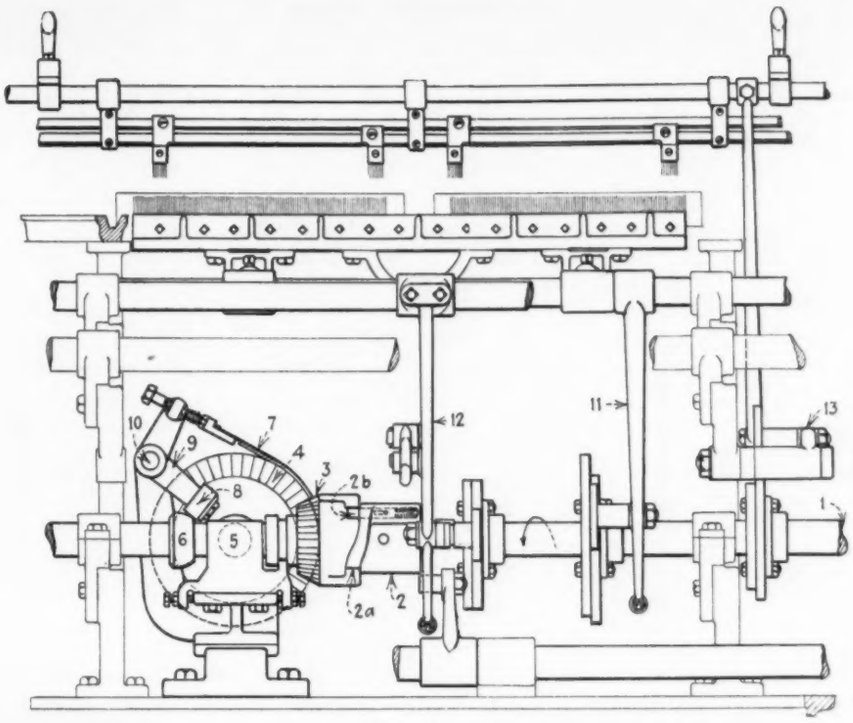



*Fig. 32—Coulier-motion clutch*

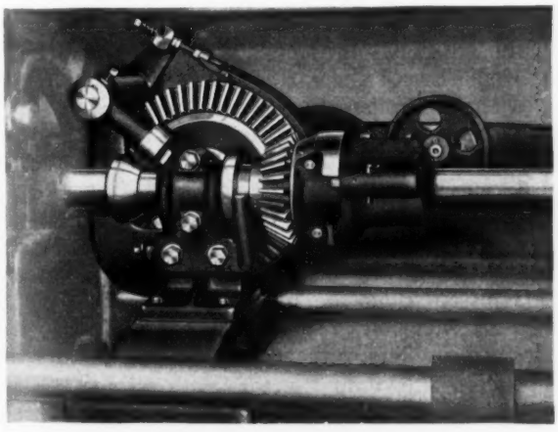


*Fig. 33—Coulier motion*

In order that the shift of the camshaft may not take place faster than is intended by the cam 9, the machine is equipped with an expanding-ring camshaft brake, shown in Fig. 35, which frictionally controls the moving shaft so that the shift roller follows the rise of the cam 9 and there is not an unduly harsh overthrow of the disc 3 against the shift roller 4.

### When the Camshaft Shifts

As noted in preceding articles, the various motions of the different moving parts of the machine, with the exception of the traversing motion, are caused to function through levers, fitted with rollers, which operate against cams mounted on the camshaft—as, for example, those shown in Fig. 32. In this figure lever 11 is the needle up-and-down lever; lever 12, the needle in-and-out lever; and lever 13, the narrowing-machine raising-and-lowering lever. All of these levers are fitted with rollers as shown, each roller in this figure riding on the right-hand cam of a pair. In the case of the lever and roller 13, the roller is riding on a circular disc in order to hold the narrowing machine in the raised position while the machine is in the ordinary process of knitting, at which time the other levers are on their cams as shown in Fig. 32. The narrowing head operates roller 14 (Fig. 28), also riding on an idling disc at this time.

As the camshaft 1 shifts to the right, the rollers, which are all held stationary in the direction of the shifting of the shaft 1, will of course ride to their other cam. All pairs of cams, or discs and cams, have surfaces of like height while so shifting. Due to this shift, the narrowing machine is capable of performing its downward and upward motions under the control of its cams, thereby performing its narrowing movements. The narrowing head at the ends of the machine can be racked and the needles can also make the necessary special movements to co-operate with the narrowing-point movements, it being understood that the regular needle movements, as for knitting, are not the needle movements necessary for narrowing.

All the other motions of the machine which may be required during the narrowing movements can—due to this camshaft shift—function in accordance with the requirements for narrowing, as their rollers also, after the shifting of the camshaft, work on new cam surfaces, which are of course shaped to conform to the narrowing requirements.

### Movements of Needles and Points

The movements of the needles and points to perform the loop-lifting and depositing functions are shown in the six views in Fig. 36. View *A* shows the needles and narrowing points in the position in which they would be during normal knitting on the machine just prior to the yarn-laying stroke of the sinkers. The elements would be in the position here shown prior to the shifting of the camshaft, which is just before going into the narrowing cycle. Before the needles reach the position shown

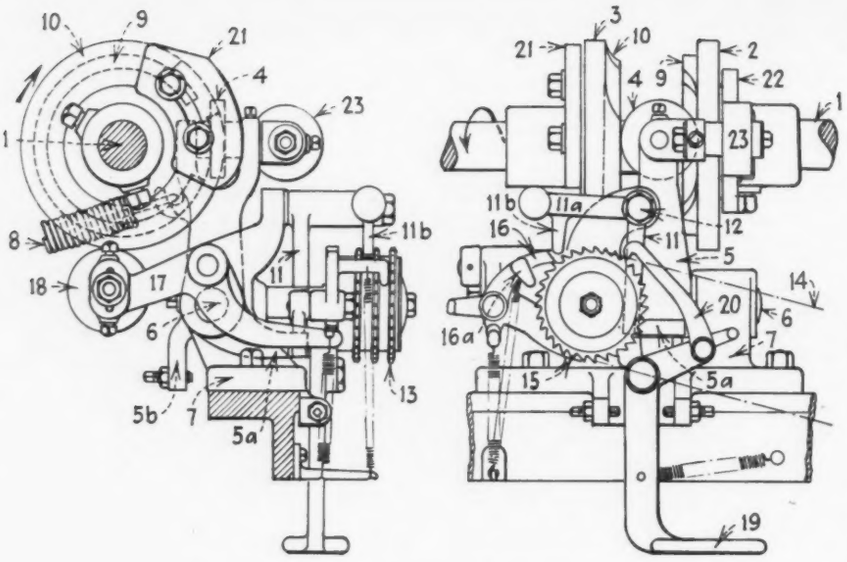



*Fig. 34—Chain motion and camshaft shift*

in view *B*, the camshaft would have been shifted, and immediately after the shift the transfer points would be lowered as shown in this view *B*. Just prior to the points reaching this position, the needles would be rocked out as shown in dotted lines, in order to prevent any possible chance of the points striking the top of the needles.

With the points lowered to the position shown in view *B*, the needles are rocked toward the points, as shown in solid lines, the lower curved point of the narrowing members being thereby buried in the eye of its respective needle. The catch bar has in the meantime brought all of the sinkers forward, as shown in this figure. With the points and needles locked together as shown, they both move downwardly to the position shown in view *C*. During this downward movement the catchbar withdraws the sinkers to the position herein shown, the movement ending with the needle hooks slightly below the top of the knock-over bits.

The needles then rock away from the points slightly, and thereafter both the needles and points rise, the points rising faster than the needles until they assume a position in relation to each other as shown in view *D*. In this position, the points are somewhat above the top of the knock-over surface, so that they can be shifted sideways an accurate distance of two needle indexes.

The racking sideways of the points is performed by the screw 8, which at this time is caused to make a partial rotation the length of one ratchet tooth 9. Both the needles and points remain in the position shown in view *D* during this shifting sideways of the points.

Thereafter the points and needles go downwardly to the position shown in view *E*. During this downward movement, the needles remain rocked away from the points as shown in this view. After the needles and points are in this position, the needles are again rocked toward the points, so that the curved, pointed end of the points can again enter their respective needle eyes, as shown in view *F*. During the same period of time, the catch bar brings all of the sinkers forward as shown in this view.

The needles and points then rise, the under side of the sinkers holding the fabric down. The hooks of the needles, during this upward movement, remain buried in the eyes of their points and move with them, and when they reach a position slightly above the bottom line of the sinkers (having gone through the fabric loops), the needles again rock away from the points slightly. Thereafter both the needles and points continue their upward movement, the points no longer in needle engagement and lifting somewhat faster than the needles, in this manner shedding their loops, which are again on the needle shanks, two needles inward from their previous position.

Thereafter a cam 22 (Fig. 34) contacts with a roller 23. As this roller is carried on a stud, which is rigidly fastened to the roller lever 5, the continued rotation of the camshaft 1 causes the cam 22 to raise the roller 23, and with it the lever 5 and its roller 4, away from the shaft 1, returning it to the position shown in this figure. Continued rotation of the cam 1 thereafter causes the cam 10 to contact with the roller 4 and in this manner shift the camshaft to the left. Overthrow to the left of the camshaft is prevented by the disc 2 and the camshaft friction device, with the shaft 1 held in this position to the left by the top surface of the cam 10 and the side surface of this disc 2. The latch 11 then locks over the extension 5*a* of the lever 5 as the chain bump, which lifted the latch, in the meantime has come out from under the extension 11*b* of the latch 11. In this manner the camshaft 1 is returned again and is locked into the position shown in Fig. 32, with all the rollers and their respective cams ready for the next course of knitting.

The shifting of the camshaft to the left has again caused the clutch 2 to engage with and drive the pinion 3

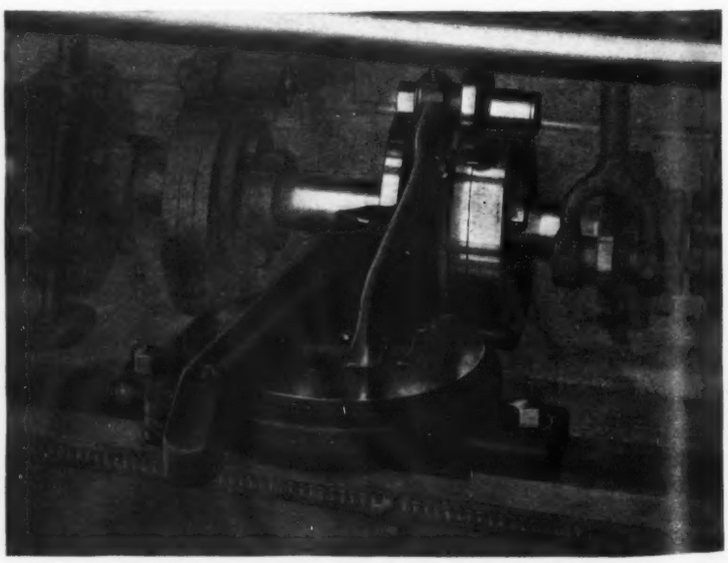


*Fig. 35.—Camshaft brake*

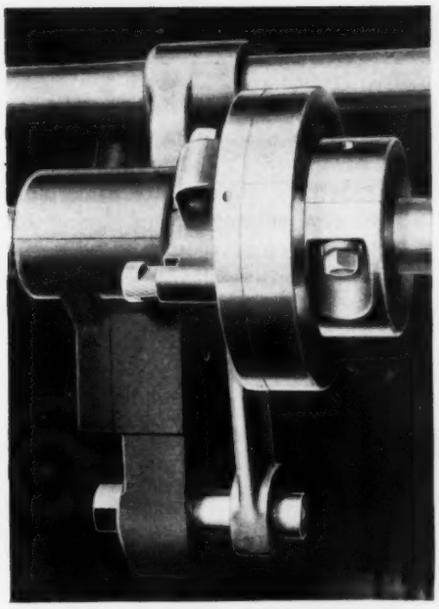


*Fig. 38. Safety stop*

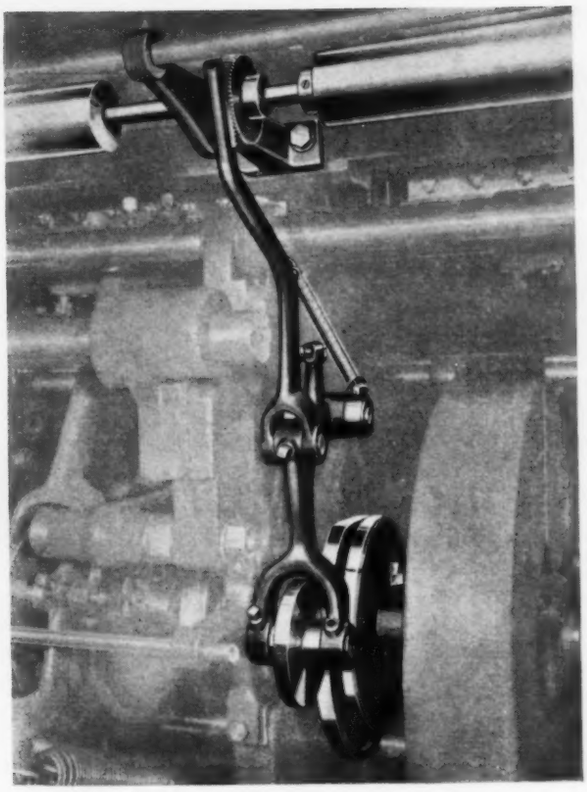


*Fig. 37. Fabric-tension release motion*

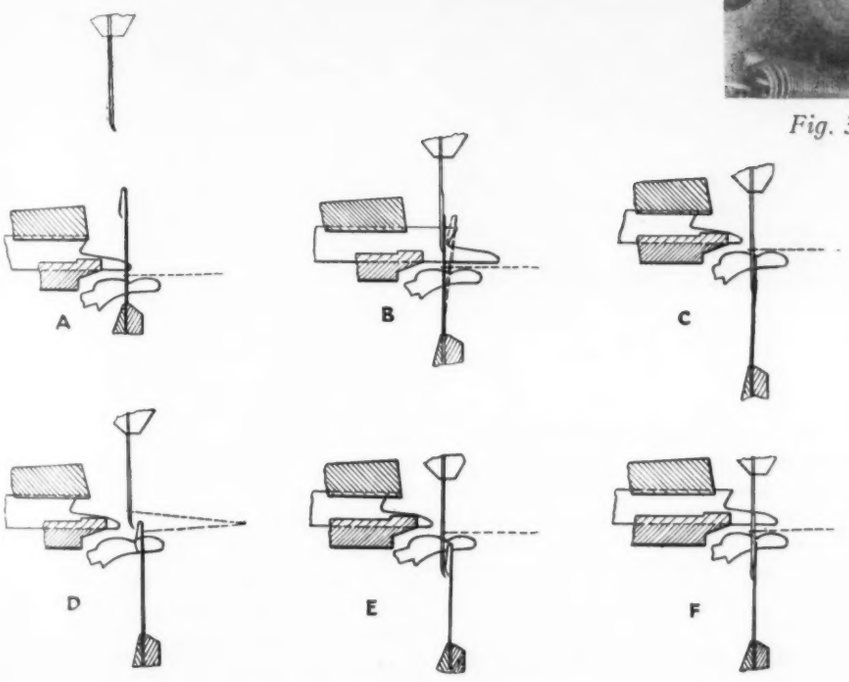



*Fig. 36. Narrowing movements*

and at the same time has released the brake-band tension, so that the Coulier motion can again rotate with the rotation of the crankshaft.

### Fabric-Tension Release Motion

As only about eighteen of the edge loops of the fabric, during every narrowing operation, are on the transfer points, and as these points cannot, without detrimentally springing, carry the weight of the normal knitting fabric take-up tension, there is provided means for slackening back the fabric during all narrowing operations.

This means is known as the fabric-tension release motion and is shown in Fig. 37. It takes the form of a ratchet lever engaging with a ratchet which is rigidly fastened to the fabric take-up roller rod. The ratchet engagement takes place at such times as the camshaft is shifted to the right. The roller for this motion comes off its idling disc and operates on a cam. The levers for this motion are so designed that the rack is caused to engage with and operate the ratchet in a reverse direction to the normal fabric-tension action, in this manner slackening the fabric and taking from the points the load of the fabric-tensioning means. When the camshaft again shifts to the left for normal knitting, the rack disengages from the ratchet and permits the normal fabric-tension means to be again applied.

Due to the many relatively high-lift cams and the heavy springs of necessity used to hold the rollers against their cams in order to perform the functions of knitting, it requires considerable skill to stop and start this type of machinery, due to the liability of running backward.

This difficulty has been eliminated in more modern machines by a device which at all times assures that the machine will run only forward.

The particular means of assuring forward motion only that is used on the Reading machine is shown in Fig. 38 and is applied to the handwheel shaft of the machine, a knurled plunger making it manually possible to disconnect the device so that the operator can, for cam setting and other purposes, rotate the machine in the reverse direction; but after the knurled plunger is properly set, backward running of the machine is thereby entirely eliminated.

# Eastern Carolina Section of S.T.A.

## *Holds Eleventh Semi-Annual Meeting*

*T. W. Mullen, who acted as chairman*

DISCUSSIONS on the lubrication of spinning spindles, methods of cleaning, and practical systems of keeping numbers from the picker room to spinning room where features of the eleventh semi-annual meeting of the Eastern Carolina Division of the Southern Textile Association, at N. C. State College, Raleigh, N. C., April 17. Approximately 75 members and visitors were present, and the meeting was presided over by T. W. Mullen, superintendent, Rosemary Mfg. Co., Roanoke Rapids, N. C., in the absence of N. B. Hill, Kinston, N. C., chairman of the division.

Following the invocation by D. F. Lanier, superintendent, Oxford (N. C.) Cotton Mill Co., Prof. Thomas Nelson, head of the State College Textile School, introduced Dr. E. C. Brooks, president of the college. In an address of welcome, Dr. Brooks, invited textile manufacturers and plant superintendents to devote some thought to possible means by which State College might increase its value to the industry. By way of suggestion, he inquired if more emphasis should be placed on merchandising and distribution, on the study of style trends, or on increased research in the technique of production.

### Discussion of Spinning Problems

J. W. Gates, superintendent, Edenton (N. C.) Cotton Mills, led the discussion on problems in spinning during the morning session. To open this discussion he asked for opinions on the use of compressed air in cleaning spinning frames. Mr. Lanier stated that in his mill, which is spinning from 8s to 12s yarn, it is necessary to use compressed air in order to keep the machinery clean. He found it good practice to blow off the spinning frames after closing down the plant in the evening and for a few minutes before starting up in the morning. Several other members felt that it would be more satisfactory to blow off the frames while running.

Advantages of the bunchless automatic overhead cleaning system were described by A. P. Richie, superintendent, Dixon Mills, Inc., and Trenton Cotton Mills, Gastonia, N. C., who stated that it served to prevent lint from accumulating on the roving. Compressed air is used in his mills to clean spinning frames each time they are doffed. Only one operative is allowed to handle the compressed air equipment, and it has been cheaper and more satisfactory than mopping off.

An inexpensive cleaning device for use in the spinning room was also described by Mr. Richie. This consisted of a special truck upon which a brush was mounted in such a way that it projected far enough to clean the ring rail and just touch the top of the whorl. The operative merely pushes this truck along the front side of the spinning frame and thus keeps the rail clear of lint.

E. M. Holt, superintendent, the Erwin Cotton Mills Co., Plant No. 4, West Durham, N. C., found that keeping the inside of roving bobbins clean is of considerable help. In doffing fly frames, after laying up the flyers, Mr. Holt stated that waste should be removed from the tops of spindles before doffing. This practice was said to eliminate many black specks.

M. R. Harden, superintendent, the Erwin Cotton Mills Co., Plant No. 1, West Durham, N. C., was anxious to find some method of lubricating bobbin gears that would prevent oil from getting into the speeder bobbins. It was pointed out that some makes of roving frames were so constructed that the bobbin gears may be lifted by hand and oiled underneath twice a week. On other makes of frames, however, the bobbin gears cannot be lifted without removing the casing. An interesting method of lubricating bobbin gears on the latter type of roving frames was described, as follows:

The bobbin gears were taken to the machine shop and placed in a scroll chuck on the lathe and a grease channel, about $\frac{3}{8}$-inch wide and $\frac{1}{8}$-inch deep, turned on the inside. These grooves are filled with No. 2 grease for winter and No. 3 grease for summer and give satisfactory results when lubricated about every four months. Under the method described above no oil is used on the bobbin gears. Opinion was against the oiling of bolsters.

### Oil for Spinning Spindles

The next question for discussion was: What viscosity oil is best for the lubrication of spinning spindles? Clarence C. Cates, overseer spinning, Edenton (N. C.) Cotton Mills, submitted a paper on the results derived from tests recently made under the supervision of an expert from one of the larger oil manufacturing companies. Among other things, he said:

"There are numerous defects in spinning which can be directly attributed to unsuitable viscosity of spinning oils, of which shaking spindles are the most costly. It will be useless for us to discuss all of these defects, but we list a few of them for your consideration: wavily worn rings; replacement of travelers; excessive power consumption; slack-twisted yarn; high end breakage; rebanding; and replacement of bolsters. *(Continued on page 67)*

# Questions . . . *and* Answers . . .

WE UNDERTAKE to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. We do not undertake, however, routine analysis of yarn or fabric, or investigation involving unusual expense.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith.

Letters expressing opinions or voicing criticism are cordially invited. These will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.

## Removing Oil from Hosiery

*Technical Editor:*

*Can you please inform us how to remove oil from hosiery without leaving any oil on the dyeing machine? (7509)*

Due to the meager information furnished, it is difficult to give a satisfactory answer. One can only generalize and try to hit the mark in some way. If the oil is from the knitting needles or from a yarn softener used to facilitate the knitting, it can be removed in a scouring solution made strong enough to emulsify it and keep it in solution until it is washed completely out of the goods. The scouring bath can be made up of a number of products, according to the type of hosiery.

For cotton hosiery, an effective scouring bath can be made up with 2% of turkey red oil, 2% of soda ash, and 5% of olive-oil or tallow soap previously dissolved in boiling water. The goods are boiled in this bath for about 30 min. and rinsed in two or three changes of warm water. In these rinses 1% of soda ash will help to remove all the soap and oil that may be adhering to the goods. If the goods contain cotton and rayon, the same procedure holds good. In the case of the acetate yarn, the scouring bath should not exceed a temperature of 175° F. If desired, dyeing can be done in this scouring bath, but best results will be obtained by dyeing in a clean bath.

If the hosiery is made of silk, or silk and mercerized cotton, the goods must be first scoured and degummed. This is done in a boil-off bath made up with about 20% of a good grade of olive-oil soap or boil-off oil, some soda ash free from caustic, and a good solvent to help emulsify all oils, softeners, and knitting emulsions used in throwing and knitting. The goods are boiled for about 45 min. and then thoroughly washed. In this case, the dyeing may also be carried on in the boil-off bath, as some dyers prefer to do, or in a fresh bath. The main thing to keep in mind is that the materials used in scouring and dyeing should be of the best quality available. Cheap soap and poorly sulfonated oil may do the work at times, but invariably will be costly in the end. If proper chemicals are used in scouring and dyeing, there is no reason why oil should be left in the machine after dyeing.

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## Blanket Manufacture

*Technical Editor:*

*We have been asked continually by local farmers if we could not take their wool and make blankets of it. We should like to know what is the best class of wool to use in making blankets, the size of yarn used, and the cost of weaving and finishing it.*

*We are now making wool and merino yarns for sweaters and are having some of it knitted up for us. We could just as well make the weaving yarn if we could find someone to weave it; or we would consider putting in the looms, weaving the blankets, and having them finished outside.*

*Could you give us some idea of the cost of weaving a 4-lb. blanket, and what it would cost to finish? We have seen these blankets of the better kind made from all wool and would like to get the cost, and the size of yarn used in the warp,—or are the filling and warp the same size? We have ample room to put in about what machinery we want, if we thought it would pay; but to get started we should prefer to have them at least finished outside. (7489)*

Owing to general lack of information on the subject, your inquiry is a very difficult one to answer accurately.

The grade of wool to use in a blanket depends entirely upon the result desired or grade of blanket wanted, as blankets range from a very fine wool and camel's-hair, down to ¼ blood and 44s South American wools and reworked wools. Also the type of blankets ranges from camp to very fine bed blankets.

The following should answer the inquiry: 4 to 4½-lb. virgin wool blanket; size 66x84 in.; 100% wool. Taking as a basis of wool, a B Super grade at a cost of 42c. per lb. clean at pickers, weave 2/2 —2 —2; lay 81½ in. in loom (width); reed 5½x3; 20 picks in loom, ⅞ run; 1344 ends of warp, ⅞ run; loom weight, approximately 34 oz.; finished weight, 29.5 oz.

| | | |
|---|---|---|
| 34 ÷ 80 = approx. 42 oz. wool at picker @ 42c. | $1.10 | loomyard |
| Labor per yard | .45 | |
| Manufacturing per yard | .34 | |
| | 1.89 | |
| Finished loom length (84 in.) | × 2.33 | yd. |
| | 4.40 | |
| To bind edges | .25 | |
| Blanket cost | 4.65 | |

Custom cost per blanket: cost to weave, 25c. to 30c. plus profit; cost to finish, 20c. to 23c. plus profit.

Another layout on 4-lb. blanket: 1200 ends, ¾-run warp; 7x2 reed, 85½ in. wide in loom; 16 picks, ¾-run filling; loom weight, approximately 34 oz.; shrinkage, loom to finished, approximately 4%; finished weight (yd.), 29½.

Basis, clean wool at 42c. per lb.

| | | |
|---|---|---|
| 34 ÷ 80 = 42 oz. at picker @ 42c. | $1.10 | |
| Labor | .39 | |
| Manufacture | .28 | |
| | 1.77 | |
| | × 2.33 | yd. |
| | 4.12 | |
| 4% take-up, loom to finished | .16½ | |
| | 4.28½ | |
| To bind edges | .25 | |
| Blanket cost | 4.53½ | |

Custom cost per blanket (approximate): cost to weave, 23c. to 28c. plus profit; cost to finish, 20c. to 23c. plus profit.

The above figures cover a general *single* 4- to 4½-lb., 66x84-in. bed blanket, or general utility blanket.

▼

## Variations in Combed Peeler Yarn

*Technical Editor:*

*Will you help me to overcome my variation in combed peeler yarn? Our processes are as follows: We have the two-process picker making a 10½-oz. lap on the finisher; and 44-grain card sliver (carding 60 lb. per day) making a 530-grain lap from sliver-lap machine, which goes to the comber (leaving out the ribbon lapper). We are combing out 17% of waste, and our combers are delivering a 44-grain sliver. This only goes through one process of drawing and three processes of roving—slubber, intermediate, and speeder. We deliver to the spinning room a 625-hank roving, which is spun into 56.00s yarn on long-*

*draft spinning. The numbers vary more than we think they should, and I shall appreciate any suggestions you may offer to overcome this variation. Our average variation on this 56.0's is 3.94. (7537)*

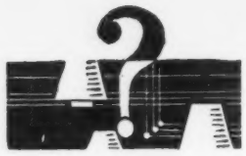
It appears that you are of the opinion, as are many other men, that unevenness is caused previous to the drawing. We draw this conclusion from the fact that you have given no organization for the drawing or roving processes. The average mill man generally looks to his pickers and cards for the cause of this trouble.

For one who desires to trace unevenness to its many probable sources, we recommend the following procedure: Weigh at least 10 yd. from two laps off each breaker picker. Do the same with the finisher pickers. Take the sliver from every fifth or tenth card and weigh 10 yd. from different sections of the cans. From every other or every third sliver-lap machine weigh two or three running yards from two or three laps. Take every fourth, fifth, or sixth comber, and do the same as prescribed on the cards. Do the same with the drawings. Take four rovings from every third to sixth slubber, and take at least two running sizes on the full roving. Then reel off roving until the bobbin is two-thirds or one-half its original size, and take off two running sizes. Next reel off until the bobbin is one-quarter of its original size, and take at least two running sizes. Do this same thing on all the roving processes and the spinning process, and use the same method on the warp and filling. After all the weighings are tabulated, some of the processes are sure to show up unevenness.

Of course there are several causes of unevenness which can be traced to machine conditions, high speeds, improper weighting of rolls, insufficient oiling, insufficient cleaning, and unsuitable humidity.

It has long been the belief, but it is not true, that in order to have proper humidity the temperature must be high. If automatic controls are not employed in the departments, there is bound to be uneven humidity. Gears should not be changed without a check on the humidity. In seeking the cause of unevenness, a check of the humidity should be made at each process at least four times a day for at least a whole week, all readings being taken with a sling psychrometer. One reading should be taken the first thing in the morning at starting-up time. It would be even better to take six readings a day for the first week, three in the morning and three in the afternoon.

Other items to watch in the spinning include slack bands, too heavy a traveler, too high a spindle speed, too high a rail speed, eccentric steel rolls, and hesitating top rolls (especially the roll that is not weighted). The latter trouble may possibly be due to lint or lack of oil, especially back and front. More and better cleaning should be done where long drafting is employed. Too much twist in back stock and bad or uneven settings are among the many other possibilities in spinning.



In roving watch for too much twist in the back stock, tight or uneven tensions, excessively high speeds, improper weighting, and other matters referred to in connection with spinning. In drawing look for too high speed, improper roll settings and weighting, and insufficient cleaning and oiling. Things which might be observed in combing include too high a speed, insufficient polishing and cleaning, improper roll settings, and unsatisfactory machine conditions in general. If leather top rolls are used on drawing frames and combers, it would be best to eliminate the weight-releasing levers and rods, as in many instances the weights are released and the machine is started up and run for some time with the weights only partly back in their proper position. Many mills have eliminated weight-releasing arms, levers, and so forth.

It is seldom that a card alone makes uneven work; but when it does, the following should be checked: uneven licker-in speeds, uneven flat speeds, setting off of front plate and varying angles of mote knives. Things to be observed in the pickers include uneven beater and fan speeds, uneven drafts, improperly functioning eveners, unevenly operating knock-offs (too slow or too fast, due to worn parts), and uneven apron speeds of the breaker picker. Also to be watched for in connection with the breaker picker are such things as uneven feed- and spiked-apron speeds, uneven setting of the stripping roll, uneven speed of the stripping roll, and improperly opened stock. When speaking of uneven settings and speeds, we refer to those governing the relations of consecutive machines.

One should not forget to investigate grade and the evenness of the staple in the cotton used. The efficiency of the opening and cleaning machines previous to the breaker pickers should also receive consideration.

Your inquiry is too broad to be handled briefly, and we have been able only to skim the surface and deal with those items which must first be checked before digging deeply into machine conditions and organizations.

▼

## Bleaching Spun Silk

*Technical Editor:*

*I am enclosing a piece of spun-silk fabric that has lost its luster after bleaching and is brownish in color. It was bleached the usual way with hydrogen peroxide and looked all right until scouring after bleaching. What in your opinion has caused it to change to that condition? Is there any way to bring back the luster and scroop? Any suggestions you can give me will be greatly appreciated. (7510)*

We could have arrived at a solution of your difficulty much more readily if a sample of the unbleached material had been sent instead of the bleached material. Once spun silk has been overtreated, it is practically impossible to bring it back to a pure white again. However, the scroop and silky handle may be brought back quite satisfactorily by treating with oxalic acid (about 3%) at a temperature of 120° F. Care must be taken that all the oxalic acid is rinsed out.

We suggest that you try bleaching in a stationary vat, starting the bleach at 120° F., and allowing the goods to remain submerged in the bleach liquor overnight. Rinse thoroughly; and if a soaping seems to discolor the bleach, eliminate it.

▼

## Mercerized Yarn Varies in Shade

*Technical Editor:*

*Under separate cover we are sending you one skein of 40/2 combed Sak mercerized yarn which shows two distinct colors. The yarn was spun from a uniform Sak mix, and it is our belief that the darker part was spoiled by some chemical treatment during the mercerizing process. Will you be kind enough to give us your opinion on this. (7499)*

An examination of the sample of yarn indicates that some difference in the original yarn, and not a defect in the processing, caused the shading of the skein. We split the skein as nearly as possible at the division between the two colors, and by following along the thread, found a knot. You will see it on the enclosed card, with a little of the adjacent yarn of each color. This skein was evidently made from two yarns which were not identical; and which for this reason did not have the same appearance after processing.

▼

## Construction and Finish for Napped Woolen Fabric

*Technical Editor:*

*We are enclosing herewith two samples of cloth. Sample A shows the finish which we desire. Sample B is the nearest approach to this finish which we have been able to obtain. Will you kindly examine the two fabrics and advise us what steps we must take to duplicate the finish of sample A. (7500)*

An examination of the two samples shows that they are of entirely different constructions, and that to obtain the desired finish it first will be necessary for you to make a fabric more nearly like that represented by sample A.

The weave is a sixteen-harness, one end face and one end back. The cloth should be laid 72 in. in the reed, with about 58 picks in the loom. It is constructed on a finished basis as follows: 56 ends, 2¾-run woolen warp; 64 picks, one 2¾-run face pick and one 2¾-run back pick; about 21 oz. finished, 54 to 56 in. The design approximates that shown in the accompanying illustration.

The sample was too small to determine exactly the blend of wool which is needed; but no two manufacturers would agree exactly on the blend. It will be necessary for you to estimate from a larger sample what blend of stock was used in this case.

The procedure for finishing would be about as follows: Full, wash, partially cut on the napper, dye, extract, cut through the face picks on the napper, dry, crop, and steam. It probably would be unnecessary to run this fabric through the chinchilla machine.

▼

## Warp Ends Lock in Weaving Serge

*Technical Editor:*

*I have just started running worsted warps in a 2x2 twill serge and should like some advice. I find—the same as everyone else has, I suppose—that the beard on warp ends locks together while passing and the whiskers eventually become so tangled that they break the ends down. In fact the ends get tied up clear across the warp so badly that the loom has to be stopped, the ends separated out, and the loose bunches of fiber picked out. I have tried an oscillating bar between the whip roll and stop motion; but it is not much help, as the ends tie up behind it.*

*The looms are 80½-in. reed space. The worsted is 16s (10.66 cotton counts), 32 sley, with 30 picks of 1⅞-run (3.35 cotton) wool-waste filling. We used a gum sizing in the slashers and ran two dips, but it did not appear to lay the loose fibers to any extent.* (7522)

Your problem is a sizing one. Your formula is apparently not heavy enough to lay the fibers in the warp. The following formula ought to eliminate your trouble:

65 lb. potatoe starch (Dutch)
20 lb. B. gum
15 lb. tragasol (gum)
3 lb. tallow

Mix these ingredients in a barrel with 70 gal. of water and boil all together for 20 minutes. This will give you a 150-gal. batch of size. Run in the slasher at 140°. Submerge for the first dip. For the second dip run with whatever size the roll brings up.

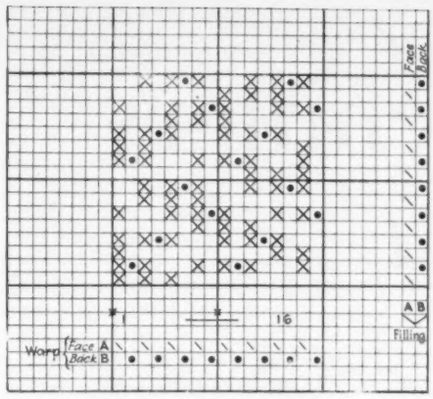
▼

## Worsted Knitted Fabric Uneven

*Technical Editor:*

*We are sending you a sample of knitted fabric made from 2/30s 7s-quality worsted-spun yarn. Please give us what in your opinion is the cause of the uneven appearance of the fabric.* (7536)

Based upon an examination of the sample in question, we offer a few suggestions which may be of help in eliminating the uneven appearance. The main difficulty apparently lies with the yarn. Harder twist in various sections of the yarn makes it appear smooth in those sections, while in others it appears looser and more fibrous. When knit, the smooth places in the yarn take a tighter stitch; the looser parts of the yarn allow the stitches to lie more open and give a loose appearance for a few wales. A combination of these loose and tight streaks gives an uneven and streaky appearance to the cloth.




*Weave for sample submitted*

The dyeing of the yarn also seems to be irregular. A slight streakiness of variable shades is seen to be unevenly distributed throughout the fabric. A few needle streaks are also in evidence, probably caused by bent latches or enlarged hooks.

▼

## Shade of Dyed Hosiery Changes on Washing

*Technical Editor:*

*We are having considerable trouble in dyeing full-fashioned silk hosiery. We get the shades satisfactorily, but when the batch is washed off and extracted, the shade is changed just enough to cause it to be rejected. The colors we use are as fast to washing as are obtainable. They are Fast Silk Pink, Fast Silk Yellow G, and Sulfon Cyanine Black B.*

*Our raw water analysis has shown from time to time iron, phenol, and industrial wastes. The city has no filtration plant, but is going to install one. Meantime, it resorts to the use of chlorine to keep down the bacteria coli taken from the lake. We pass the water through a pressure filter and soften it by the zeolite system. We find the alkaline content to be 115 to 120 p.p.m.* (7498)

The information submitted with this inquiry concerning the water supply is incomplete, and we believe that figures given as to alkalinity of water are probably incorrect. You state that the alkaline content of the water supply is 115 to 120 p.p.m. We feel quite sure that this should read 11 to 12 p.p.m., as an alkaline content of 115 to 120 p.p.m. would be out of all reason for a domestic water supply and would be unsuited for dyeing purposes. It is also our opinion that the trouble is not coming from excessive chlorine in the water, since a chlorine content sufficient to produce a bleaching effect on cotton dyeings would make the water impossible as domestic water.

The dyestuffs you are using are highly satisfactory; and we are sure that with proper application of these colors, trouble will be eliminated. We are not certain that the trouble reported is traceable to your water supply; and we therefore advise a careful check-up on the entire process of dyeing and after-treating.

If this check-up does not disclose the cause of your difficulty, we suggest that you then have an examination of the water supply made by a consulting chemist in your locality who is familiar with both the analysis of water and the requirements of water insofar as they relate to dyeing.

▼

## Rayon Is Cut in Knitting

*Technical Editor:*

*We are enclosing three cops of rayon. We have made several unsuccessful efforts to knit this rayon on both 200-needle, 3¾-in. and 220-needle, 3½-in. Banner knitting machines. The enclosed clipping from a 200-needle machine shows how the rayon appears after being knit.*

*It is possible to knit the rayon by turning the machine slowly by hand and not have any tension on rayon. If tension is placed upon the yarn, the needles begin to cut. If the machine is run by power at full speed, the rayon cuts out entirely. In other words, the rayon will not stand high speed over short turns. Are there any special oils for treating this yarn, so as to soften it and render it knittable?* (7508)

We have examined the samples of rayon which accompanied your inquiry and find that the untreated yarn has few of the desirable qualities possessed by a good yarn for knitting. In its natural state it is harsh, wiry, and lacking in smoothness which is necessary for the production of knitted fabric at high speed.

We have been successful, however, in treating this yarn and knitting it into half hose on a 220-needle, 3¾-in. Banner machine. The sample enclosed was produced with the aid of an emulsion of tallow and soap. We are forwarding you the name of the manufacturer of this product. The preparation is recommended primarily for silk and rayon filling yarns which contain high twist, but is effective in softening the samples of yarn submitted.

The emulsion should be prepared by mixing 4 oz. of the softener with 1 gal. of water and boiling for 15 min. The rayon skeins are entered after the mixture has cooled to 140° F. After 10 min. the skeins should be removed and extracted. Best results are obtained by knitting the yarn before it is thoroughly dry.

# New Machinery *and* Processes

LEFT, *Single-unit stocking with elaborate lace design.* RIGHT, *Illustrating construction of heel and foot of new single-unit full-fashioned stocking*

## Two Single-Unit Full-Fashioned Hosiery Machines

TWO new machines for knitting full-fashioned hosiery in one operation, developed by Schubert & Salzer, Chemnitz, Germany, are being introduced to the American trade by Alfred Hofmann, Inc., 629 Fifteenth St., West New York, N. J. One of the new machines is known as type HSU and has been developed from the present type of HSL high-speed machine, but is of heavier construction and has its shafts and transmission located in new positions. Attachments for picot edge, pointed heel, and lace clock are standard equipment. The other machine is known as type SSUJ, and is a single-unit jacquard for lace design, although it can be used for making plain stockings if desired.

Although both machines are primarily intended for the production of stockings in one operation, they can, without any mechanical changes, be used as either leggers or footers if it is desired to make the familiar two-unit stocking. It is said that the heel is not forced, pulled, or formed on the board, but is actually widened out and narrowed in, accurately following the curvature of the foot. Looping at the heel is not necessary, and the seam can be run from the welt all the way through to the toe. A special arrangement is said to insure a perfect selvage.

The machines are designed to run at a minimum speed of 70 courses per minute for plain stockings, and at higher speed when producing certain styles and using suitable material. The needles have been shortened for better alignment. Whereas formerly it was customary to bring the needles to press at the sinker head, in the new machines presser bars with an individual press needle for each knitting needle are provided. Both types are equipped with hook knocking-over bits. The knocking-over bar is movable horizontally and vertically in order that the fabric may be knitted off the needles without the use of the welt bar and draw-off to take up the fabric or without previous topping on. Unusually short yarn carriers are now employed.

In the friction mechanism there are now two friction rods running at different speeds, one at the same speed as the slur-cock and the other at either one-half or two-fifths the speed of the slur-cock. Before completion of each course, the friction on the rod running at the same speed as the slur-cock is automatically coupled with the slower-running friction rod so that speed reduction toward the end of the course of from one-half to two-fifths is obtained, resulting in a shockless hitting of the thread carriers. The needle bars can be disengaged individually.

On the type SSUJ machine all motions as well as the design are controlled through the jacquard card, and on the type HSU machine there is also a jacquard which, while considerably smaller and in front of the machine, performs similar functions. This small jacquard, whether making a plain stocking or one with lace clock, controls all the narrowings, the lace pattern, and all stops necessary, eliminating the setting of chains for each machine when changing over to a different style. A manufacturer having a large number of machines can simply make up one master card and copy a sufficient number of cards for the other machines.

The single-unit stocking which these machines produce has been registered under the trade mark "Schusamag."

## Examining and Measuring Machine

RAPID and accurate examination of fabrics is enabled by a new examining and measuring machine brought out recently by General Machine Co., 189 Caldwell Ave., Paterson, N. J. A unique feature of the machine is a non-losable ruler which fits into a notched slide on the face of the machine, and which can be removed only by sliding it entirely out of the groove. Another feature is the large size of the board, which is 42 in. high. Because of this, a large area of goods is visible, thus making for fast and accurate examining.

The table can be tilted at any angle while the machine is in motion. Clutches are dual controlled and can be operated from either the front or the back of the machine. The drive is also reversible, so the operator can instantly return the goods to the examining board if his eye catches a defect. Due to the fact that the machine is equipped with

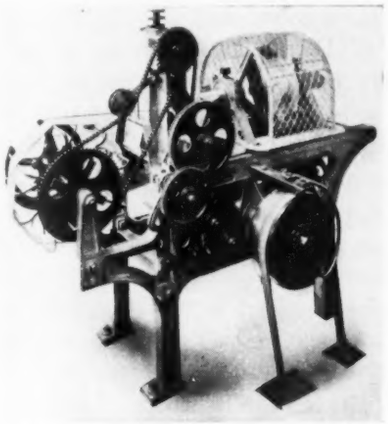
*Examining and measuring machine of reversible type*

ball bearings throughout, it is light running and does not pull the goods. The equipment is sturdily built of cast-iron and can be used safely with 26-in. rolls. Other details of interest include an adjustable-speed motor, fully-enclosed drive, clutch and gears run in oil, and an accurate 1-yd. measuring drum.

## Continuous Curling Machine

A CONTINUOUS curling machine for imparting a curliness or waviness to various textile fibers and yarns has been developed by Thomas Broadbent & Sons, Ltd., England, and is being marketed through the company's American agent, T. V. Cotter, Inc., Boston. Use of the machine is said to enable production of pile fabrics with a rough curled surface, suitable for overcoatings, rugs, and allied lines, and to increase the possibilities of utilizing curled effects on fibers which are ordinarily straight. It is further stated that a permanent wavy effect is produced with greater uniformity and at less expense than by using hand methods. The machine is compact, occupying an area approximately 5x2½ ft.

In operation, a spool of yarn, wound with from 12 to 150 ends, depending on the count, is placed in a revolving cage.

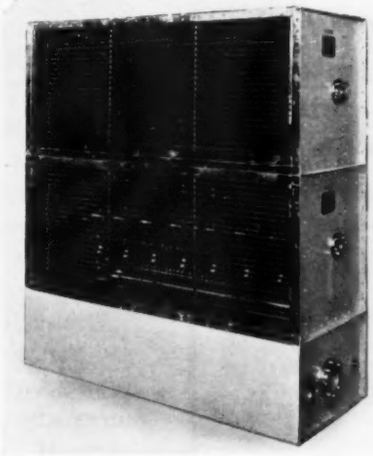


*Continuous curling machine showing uncurled yarn on the spool and curled yarn on the swift*

The ends are passed through a spiral chuck which controls the curl and then through an adjustable tension device. The curled rope then passes between rubber-covered rolls onto a swift. The revolving frame, which imparts the twist, and the rollers are positively geared. Change gears enable production of all types of curl. The collapsible swift is fitted with an adjustable friction coupling, which allows for a slight creep to compensate for the increased diameter as the curled rope builds up. The twisted rope is removed from the swift in hank form, set in the usual manner by boiling, and then opened by an opening machine which must be installed in conjunction with the curler. One opener takes care of two curlers. The spool holds up to 7 lb., and output varies with the class of material to be curled.

## Air Washing and Conditioning Unit

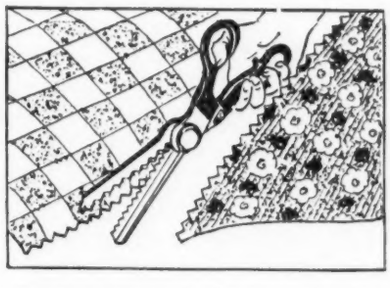
A NEW unit which filters, washes, cools, humidifies, and dehumidifies air passing through it has been placed on the market recently by B. F. Sturtevant Co., Hyde Park, Boston. This equipment, known as the Filticooler, is available in units of one, two, or three sections and is, therefore, extremely flexible in capacity and application. An advantage cited for this equipment is



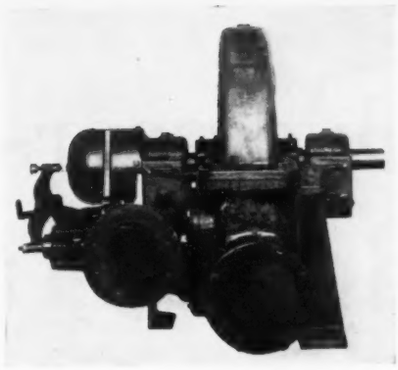
*Unit for filtering, washing, cooling and conditioning air*

that it requires much less space than the usual type of air washers. In addition the fan which draws the air through it can be mounted much closer to the unit than with an ordinary air washer. This results in a saving in expensive duct work, as well as space.

According to the manufacturer, the resistance to air flow in the Filticooler has been given careful consideration. For instance, in the size handling 500 cu.ft. of air per min., the drag on the fan is only 0.74 in. of water. This resistance is made up of two eliminators, two air filters, and a spray of water against the air flow. The filters give a high degree of air purity and also act as a fire screen when the fan is shut down, preventing the spread of fire through the unit. These filters are continuously flushed by water, thereby washing away all dirt and dust that they may catch. This flushing also prevents the filters from clogging and thus reducing the efficiency of the unit as a whole. It is stated that when it is



*Device cuts and pinks fabrics in one operation*



*Small, mechanical-drive steam turbine*

desired to use the equipment for humidification purpose, it is possible to obtain 100% saturation. Automatic controlling devices used on other types of washers may be adapted to the Filticooler. All parts of the unit are easily accessible, by removing the eliminators, baffles, and air filters.

## Mechanical-Drive Turbine

FOR driving fans, pumps, and similar industrial equipment, General Electric Co., Schenectady, N. Y., has announced a small, mechanical-drive steam turbine, designated Type D-58. The new turbine is designed for operation at steam pressures up to 250 lb. and speeds between 1200 and 4000 r.p.m., with capacities up to approximately 250 hp. It is built only as a single-stage machine. By limiting the range of conditions under which this turbine will be expected to operate it has been possible to decrease the length and width, making it a compact unit and enabling a considerable saving in weight. The turbine is supported at the center line to permit expansion without affecting the shaft alignment. It is equipped with speed-regulating and emergency governors and is fitted with carbon shaft packing. Pipe connections are made to the lower half of the turbine to facilitate opening for inspection.

## Pinking Scissors

PINKING scissors placed on the market recently by Progress Pinking Scissors Co., Inc., 158 Greene St., N. Y., permit cutting and pinking of fabric samples in one operation. They are useful also for finishing raw-edged seams on a wide range of materials. The scissors are said to be suitable for cutting any type of material—thick or thin— from heavy coatings to delicate chiffons. The device can be passed from hand to hand, like ordinary shears, making it unnecessary to carry the material to be cut to and from stationary pinking devices. The scissors are made of aluminum casting which gives strength without weight. Teeth of the scissors are made of chrome steel. The scissors resemble ordinary shears with the exception of the cutting edge, which comprises sets of zig-zag teeth fitted smoothly against each other.

# Overseers' Round-Table

**THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page**

◆

## *Overseers' Salaries*

*Editor, Overseers' Round-Table:*

I THINK there should always be some means whereby ability and efficient service are recognized and rewarded, and this should apply no less to the overseer than to others.

An overseer who not only has the knowledge gained by practical experience, but knows his department from a theoretical and scientific standpoint as well, has the ability to handle men successfully and is alert in keeping his department up-to-date and in the pink of condition, is certainly worth more to the company than one who possesses only a part of these qualifications or allows his department to run in a slack and unkempt condition.

I think Pete's suggestion of having maximum and minimum salaries is good, and could be used successfully, and without friction, by basing the gradation upon ability, efficiency and length of service, giving, perhaps, the greater consideration to efficiency. W. J. SQUIRES.

## *Telling Workers Company News*

*Editor, Overseers' Round-Table:*

I THINK that the question of "telling the workers what is going on" is one of the most important discussions that I have had occasion to read in TEXTILE WORLD. I am confident that, by the proper application of this idea throughout the organization, it will benefit the most progressive and efficient industry that is in existence.

During my 20 years experience as a manufacturer, my responsibilities have associated me with nearly every phase of the manufacture and distribution of hosiery, and I have always followed the policy of being as confidential as I am capable of being with all the overseers, as well as other responsible members of the organization with whom I came in contact. I have always made it a practice to discuss in the broadest way possible any information pertaining to the business with any of our departments, and the problems of various departments are often brought to the attention of all department heads with very gratifying and beneficial results.

There is a limit on the extent to which you are justified in discussing manufacturing and selling costs with an organization, due to the many details and complications which enter into a cost system. Unless you are in a position to analyze and explain thoroughly the details involved, the results would hardly justify the effort.

I firmly believe that the more confidence that can be built up, and maintained, between the management and the organization, the greater are the possibilities of entrusting to them the inside information which will go a long way toward building a broader-minded organization. The efforts that you put into this phase of the business will be more than reciprocated by the personnel helping the officials, in a much more capable way, to master the burdensome problems that go with periods of depression.

Preaching the prosperous periods, as well as the periods of depression, from the house-tops is of little value either to the management or the organization. Better results can

## *Private Offices fo*

"THIS is a pretty nice day," Superintendent Chase glanced out the open window, "and I must admit that I feel a little lazy. In other words, I'm in hopes that one of you will bring up a topic for discussion at this meeting."

"I've just been waiting for a chance to start some fireworks," Joe spoke up, "and a lazy warm day that makes you think of comfort is just the time to bring up this topic. Without wanting to be personal, I'd like to know why some of the overseers, Hank and Bill for instance, have offices while some of us haven't."

"That's a point," said Chase, "that I'll admit I never thought of. It may seem like nothing of importance and yet there is something in what Joe says."

"Since Joe mentioned me," Hank joined in, "I'll say that I really need an office. I do a lot more record keeping than Joe does and there are many times when I need a quiet place to talk with someone. If Joe thinks that I use the office to lay around and rest in on warm days—"

"Wait a minute," Pete laughed. "I can see right there an argument against anyone having an office. There is bound to be a certain amount of jealousy unless all the overseers have them. However, I think that the greatest argument against offices is that the overseer does a better job in running the department if he has his desk right out in the middle of the room. While the overseer's office may just be a glass coop, it is easy to get in the habit of sitting in there, and no matter how much glass there is the overseer can't keep track of things as well as when he is right in the room. The workers, in addition, don't like to see an overseer sitting in an office. I'll admit that there are cases where the overseer has to have some testing instruments, or the boss dyer may need a place where the light is good to match colors, and I'll grant that there should be little rooms for these purposes, but

## Overseers

don't have the overseer's desk or chair in there. If you don't give the overseer a comfortable place to sit in he is going to be out around the room improving efficiency and that is what he is paid for."

"I suppose," Bill grumbled, "that because I'm one of the pampered pets who have an office I'll be accused of all sorts of things for speaking in favor of them, but I'm going to anyway. What I say is this: I have to keep my help efficient or I wouldn't keep my job. To keep my help efficient I have to be efficient myself. An overseer has responsibilities and he has to do some thinking, and I can do my thinking better if I have some place I can go to once in awhile and have a little privacy. You know how hard it is to think straight out in the room with all the noise. I'm not worried about what the workers might think because they know I only got, and hold, the job through ability. In fact, I'm all in favor of offices for overseers."

◆

**Do *you* think that overseers should have small private offices or should have their desks out in the room?**

*Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.*

always be obtained by a more liberal distribution of the payroll during the prosperous periods, and the most economical and equalized distribution of the payroll during the periods of depression. OBSERVING READER

*Editor, Overseers' Round-Table:*

UNDER prevailing conditions a certain amount of "inside information" regarding the nature of orders, their destination, quantity and date of shipment, is made known to the overseers. In many cases this is absolutely essential and forms a requisite part of the overseer's knowledge.

The question would, therefore, seem to resolve itself, as to whether it is a good policy to tell the workers generally how the company is getting along. To do this would, in isolated cases, stimulate interest, but on the whole, in my opinion, it would do more harm than good, as it would have a psychological effect detrimental to the help under adverse conditions. SEER.

*Editor, Overseers' Round-Table:*

IF YOU tell the worker that the company is losing money, he replies "it is all bunk, for if they were losing money they wouldn't run." On the other hand, if you tell them that the company is making a nice profit everyone feels that they should have a raise in wages, and the superintendent, consequently, is in "dutch."

I think it would be a good policy for the superintendent and overseers to discuss with the help the importance of good work, and other things pertaining to their work, but the financial affairs of the company should be kept in the office.

P. A. WYNN, Overseer Carding.

## Loans to Workers

*Editor, Overseers' Round-Table:*

WHENEVER A worker is troubled with financial worries, as in the case Joe spoke about, he can never have his mind on his work and do his best. His employer undoubtedly should be the most logical party to come to his assistance.

Of course, the employer should investigate and see that the need is real and that he is helping a worthy cause. He could then turn the case over to the bank and sign notes or go security for the money the overseer or employee needs, to be paid back in small installments. In this way the worker's efficiency would not be lowered during the time of his distress and his loyalty to the firm he works for would be greatly increased. N. D. WHITE.

*Editor, Overseers' Round-Table:*

AN OVERSEER should never go to the company for a loan as it puts him in an embarrassing position and takes away some of his independence.

The company, no doubt, loses confidence in the overseer who asks for a loan, for it shows that there is something lacking on his part. If an overseer cannot manage his own affairs how can the company place him in a responsible position to manage its problems? There is no doubt that an overseer receives a fair salary and he should put some of his earnings away for an emergency.

Another important situation is where an overseer asks for a loan and is refused. It makes him feel hurt and his work suffers. It is much better to borrow from a friend, if necessary. The company should never make loans to anyone. J. P.

◆

### Summary of Discussion on Company Loans to Workers

**By a vote of about four to one the contributions favored a company policy of making loans to employees who were in serious need. However, it was strongly brought out that each case should be investigated thoroughly and loans made only to those who were worthy and who were in financial difficulties through particularly unfortunate circumstances. Several contributions favored having the company, after investigation, recommend the individual to the bank where the money could be easily secured with the company's backing. Those opposing loans brought out the points that the borrower lost independence and that there would be squabbles where some loans were granted and others refused.**

# Durene

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52 Chauncy St.
BOSTON, MASS.

HAMILTON, CANADA

LOS ANGELES

*Mills*

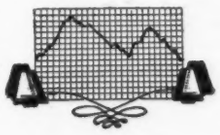
**CHESTER, PA.** **BELMONT, N. C.**

# ABERFOYLE MANUFACTURING COMPANY

REPRESENTATIVES IN ALL THE PRINCIPAL COUNTRIES OF THE WORLD

◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

# *TEXTILE WORLD ANALYST*



## *Secondary Letdown May Close Business Depression Period*

### *By Dr. L. H. Haney*

THE general business situation appears to indicate that a "secondary" decline is developing much as we have forecast, with renewed weakness in commodity prices, and sales and production in many lines tapering off. The "spring rise" in the stock market has definitely terminated as a result of the continued unfavorable business outlook and the accompanying reduction or ommission of dividends by important corporations.

The general prospect now is that we will see a further sagging in business activity of at least a little more than seasonal proportions, followed by a relatively flat spot in the business curve during which the necessary readjustments in business conditions are completed.

We are learning the lesson that the inflation complex of "new era" times must be thoroughly destroyed by a corrective process of deflation. Once great economic crimes have been committed, they must be atoned for. Business can not make a sustained recovery from the depression that always follows a great inflationary boom without again laying a sound foundation.

We can say that the severe recessionary phase of the business cycle has probably been completed. It still seems possible that the bottom of industrial activity was touched in January. This, however, does not mean that we are in a position to expand forthwith. It does not mean that the bottom of prices, earnings, and dividends has been touched, nor that business failures will immediately fall to normal proportions.

#### Favorable and Unfavorable

The business news is not without favorable indications. Thus the volume of machine tool orders gained quite sharply in March. The sales of the General Motors Corp. showed a strong seasonal gain. Even factory employment rose slightly more than usual for the season, and the same may be said of the value of merchandise imports. It must be remembered, however, that March business was affected by an unusually early Easter season, so that the figures for the month have to be discounted somewhat. Moreover, we find that commodity prices continue to decline, including raw materials as a group. Such basic indexes as building activity and railway freight traffic touched new lows for the recession in March (due allowance being made for seasonal variation). Weakness in the bond market continues to indicate great uncertainty among investors.

Perhaps the most important question now is, What remains to be done in the way of preparing for business recovery? In general, the big problem seems to be to get the remaining traces of inflation out of our system. In bank credit we still find abnormally large security loans, and abnormally low New York money rates which have caused the banks to expand their investments in other-than-government securities at a rapid rate. It would be desirable to get our commercial banks more thoroughly divorced from the stock market, to get the total collateral loans reduced, and to allow money rates to seek their own levels.

#### Some Readjustment Required

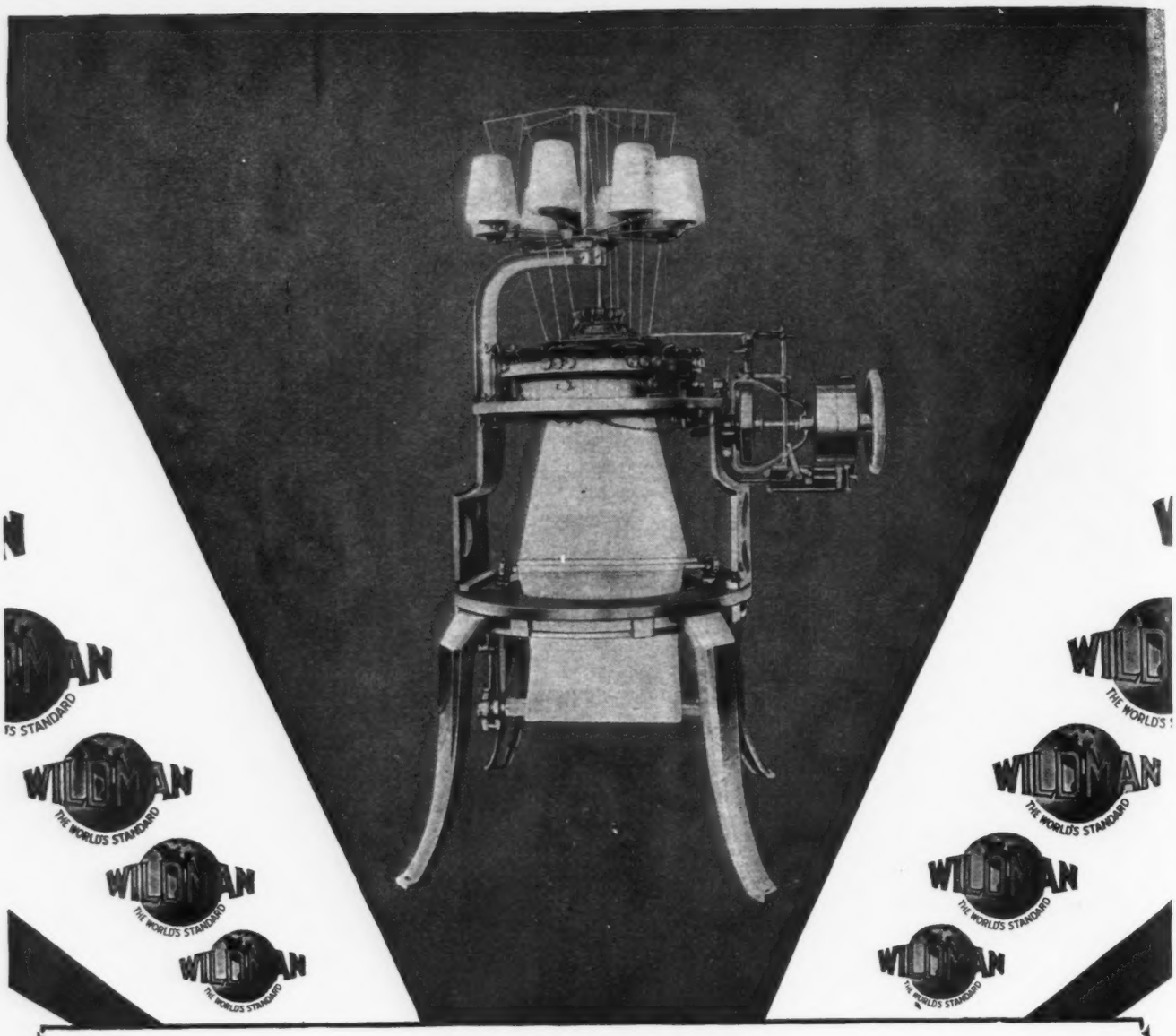
Commodity prices must go through a further process of readjustment. Most raw materials appear to be well liquidated, and, but for the remaining large stocks on hand, would probably be on the way to firmness. But there is a wide spread between the average price of raw materials and the average price of finished products. This is partly due to an artificial control of prices through price maintenance policies practiced by the government and by some trades, and is helped by credit inflation. In some trades, too, the attempt to maintain relatively high wage rates is still hindering the necessary readjustment in prices and even tending to reduce employment. (*Neither as to prices nor as to wages, however, do the textile industries appear to be subject to these difficulties.*)

The prices of a good many stocks on the New York Stock Exchange have been held at levels unjustified by earnings or dividends, which has made it difficult to stabilize the stock market and had undesirable effects on financing and business sentiment.

In short, it remains desirable still to clear away more thoroughly the delusions and artificial restraints which have been preventing the free working of the law of supply and demand. Inflationary credit policies, pooling and price maintenance schemes, and optimistic propaganda, should be minimized. Ignorance about the true condition of business should be reduced by making available fuller and more prompt statistical data in a good many cases. For example, the silk industry badly needs more accurate and timely information

***Summary:*** **While the severe recessionary phase of the business cycle has been completed, we are now suffering a minor "secondary" letdown from the usual pre-final rebound which occurred in February and March. A period of dull irregular readjustment, during which the necessary process of deflation will be completed, seems to lie ahead.**

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.



For *quality* Rayon, use the quality machine
—Wildman

WILDMAN MANUFACTURING CO.
Norristown, Pa.

# WILDMAN
## SPRING NEEDLE BODY MACHINE

concerning stocks of goods in mill hands.

Above all, we need to reduce the uncertainty that exists in buyers' minds and to restore confidence in values. This can be done only by allowing values to become readjusted and stabilized according to the law of supply and demand.

### Textile Prices Low

Textile prices appear to have resumed a downward trend. The Bureau of Labor Statistics index of textile products in March was 69.2% of the average for 1926, against 70.4 in February, and 86.5 a year ago. These figures represent a greater decline during the last 12 months (20%) and lower levels with reference to 1926, than are found in the case of the average price of all finished goods. It is interesting to note that compared with 1926 average, woolen and worsted goods are 79.7%, cotton goods 76.5%, and silk and rayon 47%. These figures compare with 78.4% for all finished goods and 72.2% for semi-finished goods.

The Analyst's indexes show that the chief textile materials are now all below their average relation to the general level of commodity prices, as determined on the basis of a combination of five pre-war years and five post-war years. This is true even of wool. In March all but cotton declined more than the general average. Wool showed the lowest monthly average since 1921 and was a little under its average relationship with cotton. Cotton was temporarily the dearest of the three chief fibers, a position usually difficult for cotton to hold, and perhaps already lost by the April decline.

Cotton, wool, and silk all present the problem of liquidating excess stocks carried over from the previous year, but all are cheaper in comparison with the average for other commodities and, therefore, are in a position to invite consumption. As the general level of prices declines, a little further reduction in the textile materials may be required, but their relatively low level should allow liquidation.

### Cotton Stocks Rise with Improved Earnings

The estimated net earnings of the average cotton manufacturer were larger in March than was the case in February or in the same month of last year. The more-than-seasonal increase in the volume of production in March, together with a further increase in the estimated margin of actual earnings, carried the estimated net earnings index to the highest level since January, 1930. The replacement margins of cloth and gray goods manufacturers showed some improvement in March, but spinners' replacement margins, following a temporary rise in February, were the lowest since the middle of 1921.

The rise in the actual margin earned was caused by slightly stronger cloth prices in March and by lower cotton earlier in the year. But after allowing for the lag in the raw material used, the tendency during the next two months will be for the actual earnings margin to decline unless there is a further rise in cotton cloth prices. Recent weakness in yarn and goods prices, however, suggests that strength in the cloth markets may not be sustained.

Cotton mill securities rose rather sharply in March to the best prices since September. This was the third consecutive rise in the monthly average of cotton stock prices. While the earnings margin is still at a level which would lead one to expect further gains in stock prices, the probable decline in margins is likely to bring some reaction in cotton mill securities during the next month or two.

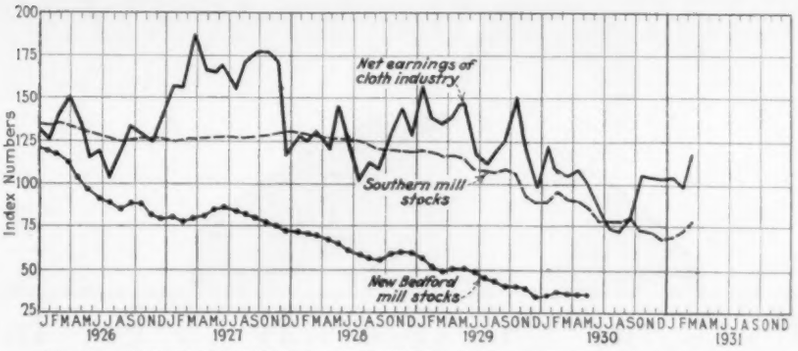

Index Numbers
200
175
150
125
100
75
50
25
Net earnings of cloth industry
Southern mill stocks
New Bedford mill stocks
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

*Fig. 1. COTTON MILL EARNINGS AND SECURITY PRICES—Net Earnings in Cotton Cloth Industry—Computed from the cost of raw material, labor, fuel, etc., the price of finished goods and the volume of production (New York University, Bureau of Business Research). New Bedford Mill Stocks—Average price 25 New Bedford cotton mill stocks (New Bedford Standard). Southern Mill Stocks—Average price 25 Southern cotton mill stocks (R. S. Dickson & Co.).*

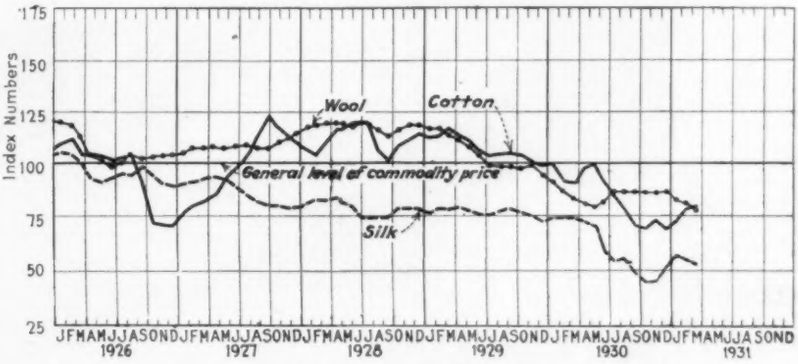
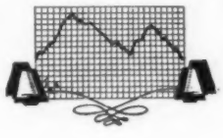

Index Numbers
175
150
125
100
75
50
25
Wool
Cotton
General level of commodity price
Silk
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

*FIG. 2. TEXTILE PRICE LEVELS—Chart shows how chief textile fibers compare (1) with the general level of commodity prices and (2) with each other. The 100 line = average of all commodity prices and fibers are normally priced when near the general level. The several fiber price curves are so placed that normally they should be close together.*

### Wool Mill Stock Prices Show No Trend

The estimated earnings of wool goods manufacturers increased substantially in February, and probably made a further gain in March. The gains, however, are mostly potentialities rather than actualities, since they were due to increased activity in manufacturing which is not necessarily sales. Moreover, there has been a slightly downward drift in the actual earnings margin since last summer. The February earnings margin, however, increased over January and compared favorably with that of any February in recent years. A sharp decline in goods prices in March caused a decline, but the cost of the raw wool used was also lower and the margin remained above the January level. Current replacement margins also suffered a setback in March.

Wool mill stock prices have not responded to the indicated improvement in earnings of cloth manufacturers. They have held in an extremely narrow range for six months. One explanation for the lack of strength in wool stock prices is that increased activity is not based on increased consumer buying, but is caused by uneven purchases of distributors. Operations are probably at a level which makes for high unit costs, and cloth prices have declined even more rapidly than has the price of raw wool. The domestic raw wool market has not stabilized and since lower cloth prices are to be expected, manufacturers will probably continue to be embarrassed by losses on goods in process.



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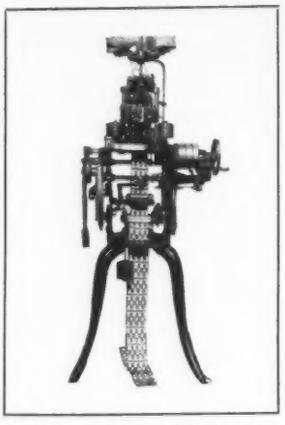
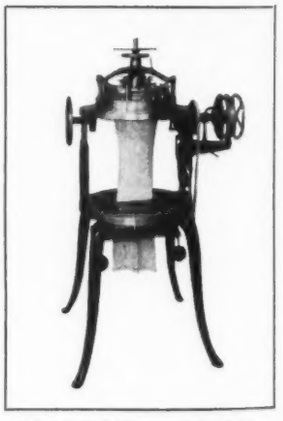


Trick Wheel Ribber



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# YARNS AND RAW MATERIALS

**TEXTILE WORLD ANALYST**

## ◆Cotton Yarn Prices Continue Slow Fall

WHILE yarn houses are more pessimistic at present than at any time this year there are several encouraging aspects to the market. Trading during the last 10 days has been quiet and manufacturers in all lines are refusing to buy ahead, confining purchases to needs over the next few weeks. A number of the larger commission houses, however, report indications that the April volume will be larger than March. January and February were the best months of the year to date and March was quiet so that to be as large as that month would not mean a great deal; but several even assert that April volume will almost equal that for February. Pessimistic reports are due in many cases to the exceptionally conservative character of current trading. Manufacturers display little confidence in the future and day-to-day business is made up of many small orders instead of future contracts.

### Yarn Prices Sagging

Prices are sagging under their own weight. Spinners need business and will shade when definite offers are made, but they accept only limited amounts at the lower level.

Sales of 20s-2 warps of average quality have been made this week at 20c, although there still are many spinners who refuse to accept less than 20½c and others who maintain the 21c level. There has been so little business that it does not pay spinners to reach for it, but yarns have been purchased by manufacturers at less than the 20c figure.

Weaving yarns are moving much better than knitting notwithstanding the strike among upholstery plants in the Philadelphia section; knitters are taking yarns on old contracts at a fair rate but new business has been practically non-existent.

That yarn prices have held as well as they have recently, has been the subject of comment. Margins have contracted to such an extent that spinners are unable to cut further to attract orders. Little change is expected, even though the market remains dull, except possibly the same type of drifting seen during recent weeks; unless, of course, cotton suffers a more important decline.

### Combed Prices Unchanged

Combed and mercerized qualities have withstood the dullness better than carded. There has been a freer movement in two-ply combed to trades other than mercerizers and volume is slightly better this month than last with two of the larger combed firms. This business is devoid of profit and means little to the spinners except that it permits them to run part of their machinery and hold their employees.

Mercerizers are operating at slightly less than 60% of single shift capacity. Demand is small but sales show a slight but steady change for the better.

## ◆Cotton Quiet; Fluctuations Narrow

THE cotton market has been comparatively quiet during the week with prices fluctuating around the 10½c. level for July and 11c. for December contracts, as if traders were inclined to await fresh incentives at the prevailing price levels. Liquidation of May contracts has continued and while it has been absorbed by trade buying against sales of later deliveries at the existing late month premiums, this has merely spread the weight of the offerings over the general list. Such pressure combined with occasional spurts of selling on weakness in stocks or grain and the earlier week reports of favorable weather in the South, caused moderate declines, but the market on the whole showed a fairly steady undertone, and there was some covering toward the end of the week on a return of low temperatures to the Southwest and rather more rain than considered desirable in some sections of the belt.

### Bearish Position Discounted

On the whole, such inferences as might be drawn from the ruling of the market would seem more negative than positive in character. There are those who think that the bearish statistical position has been fully discounted, and that, while progress is slow, general business is now on the upward trend; also that acreage reduction is likely to exceed prevailing opinions and that certain preliminary handicaps such as reduced purchases of fertilizer and overwinter survival of insects in the South may be regarded as offsetting a present impression that the new crop is getting away to a very favorable start. Bearish features, however, are rather too strong to be ignored and lead to increased selling or realizing on advances, if they do not bring any sustained pressure upon the market, and there is an obvious fear that next summer will find prospects for a crop equal to if not somewhat in excess of world's requirements, on top of the large carry-over from the present season.

There were reports here toward the end of the week that the low temperatures reported in the western belt had caused some damage and might necessitate some replanting. There is seldom a spring, however, when such reports are not received, and the impression prevails that the crop is getting a good start over the greater part of the belt. One of the prominent crop reporting bureaus says that with planting becoming general during the last ten days of April, the 1931 crop may be said to be getting off to a better start than for several years.

All advices from the cotton belt reaching here still emphasize the prospect for a reduction in fertilizer, and many of them are very conflicting with reference to acreage prospects. In a general way, there seems likely to be a less important reduction of acreage in the eastern belt than in the West. There are some reports that if cotton continues to decline, farmers will devote most of their labor to feed crops, letting cotton take care of itself.

Reports from the textile markets have afforded little encouragement for bullish sentiment during the week. The lull in demand which became evident before the Easter holidays has continued, and there seems little likelihood of as rapid an increase in either domestic or foreign mill consumption as some had hoped for when the domestic goods markets picked up in February, and when the political agreement was reached in India. The latter does not appear to have helped Manchester to any material extent and it seems that reports regarding April consumption may prove disappointing from the bullish standpoint.

### Unsatisfied Demand in South

MEMPHIS, TENN., April 20.—While the impression prevails that most of the cotton bought in this market during the

### Market Briefs

**Cotton:** ***Indifferent market, with narrow fluctuations.***
**Cotton Yarns:** ***Prices sagging in quiet market.***
**Cotton Goods:** ***Lower print cloth prices curtail trading.***
**Wool:** ***Quiet; sellers nominally firm but buyers hunting bargains.***
**Worsted Yarns:** ***Demand small except in bathing-suit counts.***
**Woolen Goods:** ***Women's wear openings for fall this week.***
**Silk:** ***Slack buying depresses prices. Tone hesitant.***
**Silk Yarns:** ***Thrown silk demand improves. Spun yarn quiet.***
**Silk Goods:** ***Shantungs and chiffons active. Other lines weak.***
**Rayon:** ***Plenty of business but little profit.***
**Knit Goods:** ***Women's full-fashioned hosiery firmer. Half-hose uncertain. Lightweight underwear and sweaters very active. Swimsuit prices tighter.***

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# YARNS AND RAW MATERIALS

**TEXTILE WORLD ANALYST**

week was on old commitments, it appears that a considerable demand went unsatisfied. Some factors are nearer sold out than before in many years, a few have nothing to offer and there is little cotton offered by merchants for resale. There was fair demand during the week for about everything that was offered, while demand for middling and better 1 1/32 in. and longer was good. Southern mill inquiry centered on 7/8 in. to 1 in. in grades below middling. While inquiry was practically from all sources it was mostly for small lots. The outward movement was about on a par with last year and the year before.

### Price Basis Unchanged

Unsold stocks are light and receipts very small. A few crop lots are left but they are in hands well able to carry them and as a rule have been hedged. Sales during the week totaled 9,681 bales against 4,529 last year and 16,657 the year before, making 603,723 bales for the season against 971,639 last year and 874,577 the year before.

Basis is unchanged from the previous week, with sellers firm in their price ideas. The week was favorable for the new crop planting and good progress was made all over the territory. There was sufficient soil moisture to promote germination and temperatures were well above seasonal normal. The trade here, almost to a man, is skeptical as to any large scale reduction of cotton acreage in Memphis territory, although freely admitting that food and feed crop acreage will be much larger than last year.

## ◆Cotton Wastes Slow and Easy in Price

THE cotton waste market is somewhat less active. Demand for certain grades of strips which has been fairly brisk for the last two or three weeks, particularly in the South, has fallen off considerably, and the bulk of business transacted this week was in medium grades of peeler comber. There was some call for specialty wastes, such as ball slasher, which sold this week on a basis of 10½ to 11½c., prices varying with the location of the consumer.

### Prices Lower

Prices are softer than a week ago. Peeler comber sold this week around 8½ to 8¾c., while peeler strips are available as low as 7¾c., and good upland strips can be bought at 7¼c. The thread section of the market continues weak and inactive, and it is now difficult to get better than 6½c. for a white thread suitable for machining purposes. The bedding stocks are slow, a fairly good grade of picker having sold as low as 3c.

## ◆Worsted Spinners' Position Difficult

ALTHOUGH spinners are confronted with a stronger attitude on the part of wool growers and dealers, they are having difficulty in obtaining proportionate price increases when they sell yarns. Prices show little change either way this week and although fine grades are steady, there is a wide range of quotations in quarter blood counts used by knitters.

Many outerwear spinners are holding firm at 85c for 2-20s, 50s, but they find business being taken away from them by competitors who are quoting at least 2½c lower; one large factor has been offering yarn at less although in this instance there is a question of whether the quality is as high as the 85c yarn, opinion being that it is lower.

### Finer Grades Wanted

It is more difficult for spinners to merchandise medium grade yarns with profit at this time than finer quality. Low prices of wool and proportionate reductions in worsted yarns have brought about a situation in which large numbers of makers of knit goods have stepped-up the quality. Mills that formerly bought nothing but quarter blood have turned almost exclusively this season to finer grades, 64s being one of the most popular.

Another indication of this same trend is seen in the absence of demand for low quarter blood. Manufacturers who formerly took all the low quarter certain spinners produced, have bought only a fraction of former amounts this season, largely because they can obtain higher grades at such exceptionally low prices.

### Better Quality Produced

These trends indicate that ultimate consumers are going to have the opportunity this year of obtaining garments at lower prices than formerly paid and at the same time receive garments made from higher grade wools.

In bathing-suits, which is the largest consumer trade at present for sales worsted yarns, there are two distinct fields: one specializing in cheap quarter blood suits and the other, expanding in size, catering to the higher quality field with 64s or finer. Both varieties are selling well.

### Sweater Yarns Less Active

Spring sweater business in yarns is about finished and the next development will be the start of buying of fall goods. This is not expected for some time. The same condition is found in the knit fabric section, little yarn being sold to this trade this week.

Men's wear mills are taking delivery on contracts placed during past weeks and the volume is satisfactory for this early in the fall season. Mixtures are the best sellers and prices of 2-30s, 64s, are holding steady at $1.50, the level of recent weeks. Dress goods interest awaits upon reception of new lines just being shown.

## ◆New Clip Wools Leading Market

THE domestic raw wool situation is just as stable, possibly more so, than the manufacturing situation. It is true that there is a substantial carryover of domestic wool owing to the reduced consumption last year, but the average consumption of wool in the United States during the last four years, allowing for 15% of mills which do not report, has been about 366,000,000 grease pounds, which figure is above the average wool clip for those years.

The situation is considered healthy, but additional business is arriving slowly. Demand covers the several grades of domestic wool, the fine qualities firm and the medium qualities rather easy. Demand for woolen wools has quieted down—noticeable in the case of B pulled wool which had a considerable rise, but has now eased off well below its top price. So long as fine wool is cheap, it is not unlikely to maintain its lead in American manufacturing in both woolens and worsteds. Bradford is under the impression that the outlook for merino wool is good.

Among the worsted wools Arizona original fine and fine medium wools of the best types have sold around 58 to 60c., clean basis, old wools of the best type at about the same level, while choice fine French combing wools are quotable at 60 to 61c., fairly good staple wools at 62 to 63c. clean basis and selected staple fine territory wools at 65c. Half blood wools of the best Montana type have sold at about 58c., holders asking 60c., clean basis. Demand for fleece wool has slowed down. Mill bids are being made below the market on three-eighths blood and quarter-blood wool. Sentiment is rather bearish on the finer fleece wools, and Ohio delaine is quoted 27 to 28c., the low price for months. The decline in Ohio delaine has simply brought it into a line with other domestic fine wools. Texas 12-months is in fair call, but 8-months' wool is slow. There is too much old short Texas wool unsold in Boston to make speculative purchases attractive.

Depletion of stocks of wool has intensified the interest in the Western primary market. Buyers report disposition among growers to make direct sales rather than await the slower settlements

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# YARNS AND RAW MATERIALS

**TEXTILE WORLD ANALYST**

which follow cooperative consignments. Where wools are being bought outright the prices paid are slightly below the current market for similar spot wool. Competition between independents and cooperatives is being carried on without any rise in values taking place.

Raw wool prices in the United States have shaken down to a consistently stable level on the basis of which dealers and cooperatives are in strong competition for the new wools of the 1931 clip. Supplies of domestic wool will be fully adequate to meet any mill consumption likely to occur this year, it is believed.

## ◆Rags, Noils, Wastes, In Slow Movement

OPERATIONS in the reworked wool industry are routine on a low capacity basis. Cheap wools, as well as cheap noils and mill wastes, have undoubtedly had a marked influence in diminishing the demand for substitutes. Better times are apparently ahead, but there can be no certainty about this inasmuch as cheap wools enable worsted manufacturers to put out low-priced and attractive fabrics.

The domestic rag market is still in the doldrums. Buying of rags last week, while broader in range, showed no gain in the aggregate turnover from the previous week. Mill buyers continue to work upon the depressed sentiment of the market, making ridiculously low offers on even the best rags. Considerable quantities of light hoods were purchased recently by a concern operating it is supposed for a large manufacturer, at prices averaging around 10½c. The market is now short of this rag and 11c. is asked on restricted stocks. Merino rags are in slow demand. Lower prices would not, it is believed, result in additional business. A few transactions are seen in white knits around 24c., while the foreign white knit quoted at 33c. is very quiet.

Mill wastes are apparently being produced in larger volume than the amount going into consumption and yet on the good types supplies are believed to be little if any above normal. Consuming mills will not put waste into stock even if available at a cheap price. Prices are unchanged from the beginning of the month. There is a rather stronger tendency in some of the colored threads.

The noil market is operating in a rather dull period. Manufacturers are sufficiently supplied for their immediate requirements. Prices show little or no change from day to day. Demand at the moment covers the four leading grades of domestic noils, and also Cape and Australian, the domestic output of which has been quite restricted for a year.

## ◆Thrown Silk Call Stronger; Spun Quiet

A MILD increase in demand for thrown silk this week has encouraged throwsters to hope for a few more weeks of activity before the summer lull sets in. Broadsilk mills are showing fair interest for immediate delivery; a moderate quantity of small spot orders was placed this week, chiefly for crepes. Thrown yarn prices have reflected the raw silk uncertainty, by dropping 10 to 18c. The market tone is more confident, though there is no expectation of any real pick-up before fall. The best the throwsters look for is a flurry of reorders for the production of summer fabrics. Hosiery mills buy little, but there is increasing interest.

Spinners are resigned to their between-seasons lull. Broadsilk mills are thumbs down on any substantial contracts, and even the reorder business has shown a drop. Shantung fabrics continue important however, and a flurry of reorders is within possibility. The chief deterrent is that broadsilk houses are exceptionally cautious and are holding down on output. Yarn stocks in spinners' hands are moderate and prices hold steady. Little interest in fall coverage is manifest among buyers.

## ◆Hesitant Buying Weakens Raw Silk

RAW silk prices have weakened, due to a recession in Yokohama and also to a hesitant buying mood in New York. During the last ten days orders from the weavers have been few and meager, though the current week shows some promise of pick-up. Manufacturers of fabrics are applying the buy-as-you-make policy to the nth degree, and stocks of raw silk in mills are absolutely at minimum; this situation has offered some encouragement to importers, as any increase in fabric production would necessarily mean a sharp improvement in buying. The hosiery mills show some interest and are sounding out their sources of supply, hinting at early business; so far, however, these knitters have done little buying.

Raw silk stocks in New York are light, and importers find difficulty in meeting the present call—slight though that call is—for the low grade 13/15s and 20/22s. It seems reasonable to look for a series of fluctuations in the market during May, but whatever recessions develop, will probably not be long maintained. Broadsilk mills are disproportionately cautious in their coverage at present, due to their recent unhappy experience with prints; summer demand should soon manifest itself at that end, which in turn would provoke reorders for raw silk.

Yokohama sentiment is uncertain; prospects point to a rallying there shortly as stocks on hand are light. American importers are more hesitant than usual this year in estimating the new season's crop; advices this week inclined them to the belief that the crop would be below last year, but they refuse to prognosticate with any confidence.

The current price decline in New York is most pronounced in the high grades; the best qualities of 20/22s have receded about 15c., while 13/15s have dropped 15 to 20c. on virtually all sizes.

## ◆Rayon Selling Almost at Cost

THE rayon industry is enjoying a period of volume inflation, with little or no profit in the business. The order situation this week was substantially what it has been for two months —spirited spot buying, and, when necessary, advance buying, at prices so low as to allow the meagerest possible return on investment. Producers who talk frankly, are not disposed to paint the financial picture in bright colors. Certainly, so far as consuming industries are concerned, the outlook is good; both knitters and weavers recognize the exceptional values in current rayon prices, and they are buying actively; these mills also are encouraged by a steadily improving turnover in their own lines.

The chief bright spot in the picture, for the rayon producers, is the continued diminution of stocks. Several firms estimated this week that they had less than two months supply on hand and prospects are that another four weeks of active buying will reduce the surplus to one month's supply, in these particular instances. This rapid clearance of surplus will strengthen the position of the industry materially in early fall, provided, of course, that output is kept down during the summer.

However, even with due allowance for these brighter sides of the picture, the prospects for the first half remain dubious. Numerous producers are understood to be continuing their output of 150/24 and 150/36s, which are selling at the below-market figure of 65c. per lb. When 65c. was announced in January as the price of these yarns, it was understood that this would be merely a temporary move to clear out "obsoletes," as the production of the 24s and the 36s was to be discontinued. Continued output of these so-called

*(Continued on page 57)*

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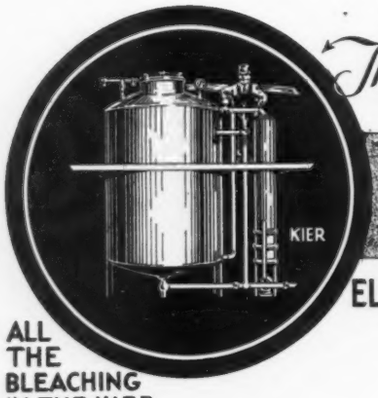


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# FABRIC MARKET REPORTS

**TEXTILE WORLD ANALYST**

## ◆New Women's Wear Fabrics Are Opened

SHOWING of fall and winter fabrics for women's wear featured the wool goods market this week. American Woolen Co., showed new lines on Monday, Botany on Wednesday and others have followed. Prices are averaging 10% lower than last season. Many attractive fabrics of the spongy type loosely woven woolens and crepe effects in worsteds are priced between 90c. and $1.25 a yard.

Indications are that it will be a good season for wool women's wear and predictions are being made that this season will witness the sale of approximately 5,000,000 yards more goods than last. Although new lines created interest, spot business is in white goods, flannels, cheviots and velour coatings. Trading in them is expected to keep mills busy for the next month or six weeks.

### Good Men's Wear Volume

New men's wear fabrics are receiving an excellent reception especially in the low and medium price fields; demand for goods in the higher-price range has yet to make its appearance in volume. Clothiers who are retailing suits around the $19 level are placing a large volume of business in fabrics from $1.30 to $1.70. One house reports that it has literally been swamped with orders during the last two weeks.

Bulk of buying to date has been from independents and not from the popular chain stores. There is discussion as to what the $22.50 chain stores will do, as there are indications that independents selling at less than their figure are "stealing" the business this season. Several of the latter are selling at $19 and booking a substantial volume of business.

The $22.50 chains are endeavoring to "sell" the idea of higher quality cloth to the public, while the $19 stores are using a three-eighths blood fabric and selling wearing quality plus good looks. Conditions in the country seem to favor the lower price group and there is some question whether it will not be necessary eventually for the $22.50 houses to cut this price.

Reductions in goods prices, since the $22.50 price was set, make it possible to pass substantial reductions in prices along to the consumer. Smaller clothiers have followed this, and there is some talk that even greater reductions can and will be made, rumor being that chains using a good fabric made from three-eights could profitably merchandise a suit close to the $15 level. Clothing for men at this price, plus wearing quality, is getting back to pre-war prices.

Low prices in goods and close figuring by clothiers in men's and women's wear is going to make the new season a volume one for manufacturers and indications are that many manufacturers will be able to sell the season's fabrics with more profit than for many years.

## ◆Cotton Goods Sales Volume Diminishing

MUCH is heard concerning the new and larger use of cottons for dress fabrics in the textile field itself and in the public press, but little is heard concerning the position of manufacturers of such goods. It would appear that the mills must be busy supplying the goods needed to meet this large public demand and that the manufacturers must be experiencing a run of good and profitable business.

Reports from the largest cotton goods houses in the country in the Worth Street section do not confirm this. It is true that stocks of cotton goods have been depleted to a smaller size than could have been imagined a year ago. This is the only feature of the market that has improved. Manufacturers' margins have contracted and they are really worse off in this respect than they were before.

In addition to their margins being small, practicaly non-existent in most cotton fabrics, manufacturers in great majority have willingly adopted the rule that night work by women and minors should be stopped. It has meant in a great many cases that night work has ceased entirely. It goes without saying that when a plant runs only one shift where two were formerly the rule, the overhead burden per unit of production of such a plant will be increased.

Instead of declining as they have during recent weeks, cotton goods prices should have gone in the other direction if the majority of manufacturers were going to be as well off as they were before night runs were stopped. Within the last 30 days we have seen print cloth prices decline from ⅜ to ¼c. a yard depending upon the particular cloth, the more popular ones declining the least.

The situation has brought out in the open much comment from disappointed factors who had thought that the statistical improvement in cotton goods stocks would have immediately meant better profit margins for mills and at least fair runs of business in the day time. That margins have continued to contract and prices have been cut has caused a feeling of "what's the use?"

### Dress Fabrics Active

Sales of goods used in making women's house dresses are the market leaders at present; fabrics taken by manufacturing trades have been quiet. The volume of new business has been small in April, but this is a natural reaction in view of the large yardage placed in the first quarter.

Complaint is still heard in Worth Street that the most recent period of weakness in print cloths was to be traced to one or two houses which forced business when it was not there. This theory is being dissipated to large degree. There has been too much softness to be blamed on any one factor and the trade as a whole must shoulder the responsibility.

## ◆Broadsilk Profit Outlook Is Dark

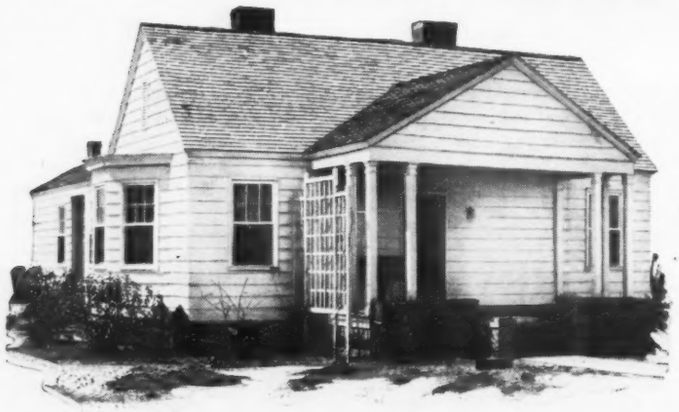
CURRENT estimates of broadsilk sales for the year to date indicate that yardage volume is substantially above the same period last year, with dollar return considerably below. Net profit has been sharply reduced and unless there is an exceptionally good season in May and June, numerous firms will report a loss for the first half. Broadsilk market tone is very hesitant at present, with activity limited to shantungs and certain of the popular summer chiffons; flat crepe demand is hesitant and is limited to plains.

It is possible that the industry overshot itself a bit, in the drastic curtailment of print output which followed the February break in prices. Print fabric stocks now are at a minimum, thanks to underselling and bargain clearance, and, so far as cantons and flat crepes are concerned, there is virtually no demand. Printed chiffons however, show signs of a revival; buyers make many inquiries, and cutters report increasing interest among their clientele. Chiffons, some factors argue, are always most attractive when printed. At present, the market has only moderate stocks of the newest sheer prints and any sharp rise in demand would find mills unable to deliver.

### Shantung Demand Increasing

Demand for shantung and other rough fabrics is increasing slowly, and the trade looks for some good business in that range once the month has turned. The peak seasonal demand from cutters for summer lines has not yet developed, despite the warm weather, and weavers look for a rise in sales very shortly. The trade is not optimistic as regards prices; a moderate firming is the best that anyone hopes for. Volume turnover in May will be substantial, it is believed, especially in shantungs and printed chiffons; but profits at best will be meager, due to competition and consumer insistence on low-priced goods.

# *THEIR* HANDSOME WHITENESS *actually* COSTS LESS *to maintain*



*These Joanna Cotton Mill houses are painted with the whitest of white paints — Outside Barreled Sunlight.*

MILL villages, at Joanna Cotton Mills, at Indian Head, at Pepperell, and at many other famous mills are noted for their pronounced whiteness . . . their trim good looks.

Yet painting bills are not high. The clean, white finish of these village homes is economically maintained by the use of Outside Barreled Sunlight.

Unusually durable, Barreled Sunlight reduces maintenance costs to a minimum. It wears away slowly and evenly. When it's time for repainting, the surface is ready. Less scraping and sandpapering are necessary to secure a smooth repainting surface. This means a distinct saving in paint and labor.

For complete information on Outside Barreled Sunlight, mail the coupon to U. S. Gutta Percha Paint Co., 20-D-2 Dudley St., Providence, R. I. Branches or distributors in all principal cities. (For Pacific Coast, W. P. Fuller & Co.)

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**Barreled Sunlight**
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*Intensely white, handsome, durable—Outside Barreled Sunlight was chosen for all cottages of Indian Head Mills of Alabama.*

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Please send us full information on Outside Barreled Sunlight.

NAME_____

STREET_____

CITY_____ STATE_____

# KNIT GOODS MARKETS

**TEXTILE WORLD ANALYST**

## ◆Lightweight Underwear Sells Into June

LIGHTWEIGHT cotton underwear sales now are nearing their peak for the season. Worth Street agents and jobbers are pressed with orders for quick delivery, and most firms restrict spot shipment to a favored few of their customers. One outstanding mill agent was sold out on cotton track pants to June 15, and also reported an oversold condition on other lightweight lines. The active buying of spring and rayon underwear during the past few weeks has done much to redeem a hesitant season; sales are still below normal, in most instances, but the prospects for an adequate total turnover are good. Continued warm weather during the next few weeks would put the lightweight underwear mills in a satisfactory position for the season.

Lightweight prices hold firm, naturally enough, but there is little disposition to advance. However, if the present rush demand continues, buyers who put off coverage, will find themselves compelled to offer special inducements in May, as stocks are only moderate, and the bulk of production to date is against actual orders.

Demand for fall underwear has picked up, thanks to the good turnover in summer lines, but business is far behind normal. Production has been held down rigidly, and it is estimated that present output is only about 2% in excess of orders. The end of April usually finds heavyweight underwear lines about 25% sold for the season; actual business this year is so far behind that figure that mill agents would not give estimates. The one strong point in the heavyweight picture is the low mill stocks.

## ◆Several Mills Raise Swimsuit Prices

A SHARP increase in swimsuit orders this week served to tighten prices and several mills announced advances of 7½ to 10% on their rates. Indications point strongly to a seller's market in May, as stocks are limited, and only a moderate part of the normal business has been placed. The whole outerwear group, even including fall sweaters, are enjoying better movement. Spring sweater sales have been accelerated by the warm weather; mills are still making spot deliveries here and there, but the most popular numbers are sold ahead. Sweater stocks are moderate.

The call leans chiefly to ribbed pullovers in two-tone self-color effects. Blues, navies and tans are especially favored. Rayon polo shirts also move actively and prices at that end are particularly firm; orders are spot for the most part, and there is plenty of merchandise available.

Rayon polos are selling in a wide range of designs and colors; lively combinations and single color pastels both enjoy popularity. Berets continue active and there is a moderate interest in knitted ensembles.

## ◆Full-Fashioned Hose Sells at Premium

TWO weeks of warm spring weather plus continued curtailment of output have served to bring a further strengthening of the women's full-fashioned hosiery market. Low-priced stocks are scarce, and buyers are offering premiums for spot delivery. Worth Street agents are being offered 50c. per dozen premium on regular lines; this is new evidence of the market's improved status; there had been previous reports of premiums, but only for irregulars. At present, there is a pronounced scarcity of irregulars.

Full-fashioned tone is more confident, and dealers talk of a possible price advance in early summer. Such an advance, if it did materialize—and that is far from sure—would be dependent mainly upon continued curtailment. The chief issue at present is whether knitters will hold to their policy of producing to order only. Too much emphasis cannot be laid on the danger of over-confidence; any resumption now of producing in anticipation would mean losing the ground gained thus far.

The reported reopening last week of some of the Philadelphia mills, which had been closed by the strike, adds complications to the present picture. The Philadelphia strike helped materially to reduce full-fashioned stocks and thus strengthen the market; now, with the prospect of these mills again in operation, it is more important than ever, that production schedules be carefully watched.

Demand for half-hose also has improved, but there is considerable distress merchandise available, and prices are unsteady. These mills are following the lead of certain full-fashioned houses, and are producing cheap lines, to meet the tendency for low-priced merchandise. At present, there is profitable business in the low-price volume numbers, both men's and women's; as distributor stocks are low and both jobbers and retailers are buying eagerly. "Make cheap and sell cheap" appears to be the current slogan, and so far as immediate demand is concerned, it seems a sound policy, as consumers are trading-down in purchases.

## ◆Confidence Shown by Knitting Arts Sales

EARLY post-mortems on actual business done at the Knitting Arts Exhibition, held last week at Commercial Museum, Philadelphia, indicate that machinery manufacturers fared better than last year, and considerably better than the yarn and fiber exhibitors. Knitters went to the exhibition in confident mood, thanks to a favorable first quarter, and despite the fact that machinery display was somewhat less than last year, they showed themselves ready both to "shop" and to buy.

When the exhibition closed, numerous machinery manufacturers reported a good sales return. Orders placed at the show were ahead of last year in many instances. The total business was not large, of course, as the exhibition is always more important from a contact point of view than from actual orders. But knitters were decidedly "machinery-minded" at the show—more so than in recent years. The strong emphasis being laid on the need for scrapping obsolescent machinery, and the vital need for keeping abreast of styles, made them unusually responsive to the new machinery on display.

A point of signal value to the equipment firms was the stress placed on obsolescence at the National Knitted Outerwear Convention, which was held at Philadelphia, simultaneously with the show. Two leading speakers at this convention devoted their talks exclusively to the need for scrapping knitting machinery "even when it is only fairly obsolete."

Hosiery manufacturers were no less responsive, particularly the full-fashioned group. The market situation at that end did much to help machinery firms in making both contacts and sales. These knitters recognized the need for giving immediate attention to replacements, and exhibitors remarked after the show had closed that the full-fashioned hosiery men were unusually responsive.

Yarn and fiber sales, though in second place, were far from negligible, and here too there was a moderately free buying. Synthetic yarn manufacturers said their sales were light, but they were very satisfied with the contacts developed. Throwsters reported uneven buying; but all noted an increased confidence among the consuming groups.

As a key to market conditions, the exhibition indicated one thing very clearly; and that is a growing assurance in the knit goods industry as regards fall prospects, which has accelerated the manufacturer's desire to keep his equipment up to date, both with respect to style and productivity.

# SAVINGS and a 3 YEAR GUARANTEE on this modern efficiency promoter

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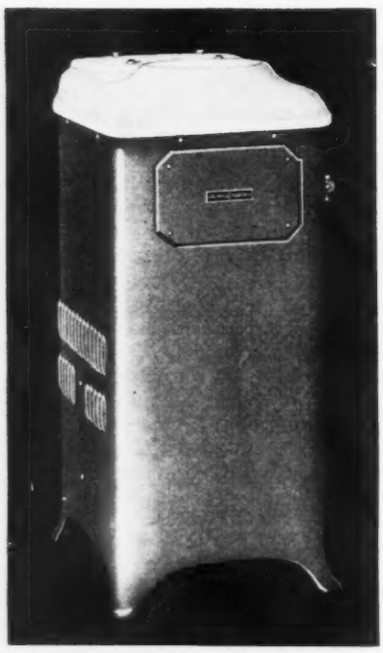


*Join us in the General Electric Program, broadcast every Saturday evening, on a nation-wide N. B. C. network.*

A FULL 3 YEAR GUARANTEE now protects all General Electric Pressure Water Coolers and Bottle Coolers from that enemy of profit—service expense! No doubt, now, that the General Electric Water Cooler pays for itself.

• Health authorities and efficiency experts agree that the human body functions better, performs greater tasks more easily, when plenty of cool, refreshing drinking water is supplied. Factory workers, particularly, appreciate the convenience and comfort of accessible cool water—tempers stay even, productivity increases.

• Quiet, entirely efficient, all the mechanism of the General Electric Water Coolers operate in a permanent bath of oil, hermetically sealed in steel. It's proof against moisture, dust and tampering fingers. Maintains drinking water at always the proper temperature. A definite efficiency promoter for *any* mill or factory—a good-will builder that, protected by the 3-Year Guarantee, quickly saves its cost. General Electric Company, Electric Refrigeration Department, Section CY 4, Hanna Bldg., 1400 Euclid Ave., Cleveland, Ohio.

# GENERAL ELECTRIC

## WATER COOLERS

COMMERCIAL, DOMESTIC AND APARTMENT HOUSE REFRIGERATORS, ELECTRIC MILK COOLERS

# TEXTILE FINANCIAL NEWS

**TEXTILE WORLD ANALYST**

## ◆ Amoskeag Takes Manufacturing Loss

GROSS business of Amoskeag Mfg. Co. for 1930 totaled $19,802,344, the final result after paying $789,686 bond interest, but before depreciation showing a manufacturing loss of $1,345,389. This compares with sales of $29,556,352 and net profit of $1,065,534 before depreciation in the previous year.

Inventory at the end of 1930 was placed at $4,428,566 against $8,103,366 the year previous.

Frederic C. Dumaine, treasurer, told the shareholders of the corporation at the annual meeting in Manchester, N. H., last week, that "the net quick capital has been reduced to $13,728,776.27."

Calling their attention to the fact that this year marks the 100th anniversary of the company, Mr. Dumaine cited the payroll of the first year, amounting to $36,000, and compared it with the year 1920 when $14,000,000 was paid in wages and salaries.

When he was asked what was spent for taxes, interest and new machinery Mr. Dumaine read the items as follows: For taxes, $619,000; for interest, $789,000; for repairs and new machinery, $1,030,000.

When another shareholder brought up the question of night work, the treasurer stated that Amoskeag found it to its advantage to have night shifts.

Pressed for a statement comparing Amoskeag's business for the first three months of this year with the quarter in 1929, the treasurer replied: "The billings for the first quarter are one-third less than they were for the first three months of last year. We have got to go some time in the next nine months to equal last year."

Henry E. Rauch was re-elected secretary of the company and William Dexter, of Boston, was elected a trustee for three years to fill the vacancy caused by the death of George Wigglesworth. The other trustees elected were Charles F. Adams, G. Gardner Peabody and William C. Endicott.

### Insull Mills Show Losses

Largely due to the continued decline in the price of cotton and other adverse factors operating in the cotton-textile industry in 1930, the five textile mills in the State of Maine controlled by New England Industries, Inc. showed substantial losses last year. The mills were formerly controlled by New England Public Service Co., which transferred its various industrial enterprises to New England Industries Inc., in which the Insull power organization has a large interest.

Bates Mfg. Co. of Lewiston, the largest of the mills, showed a decrease in surplus for the year of $1,013,567, following dividend payment of $53,992, an operating loss of $459,575, and creation of a reserve of $500,000 against which $323,062 was charged to reduce value of inventory as of Dec. 27, 1930.

The Androscoggin Mill balance sheet shows a deficit of $137,804, the elimination of surplus resulting from an operating loss of $208,575 and creation of a $400,000 reserve against which $337,089 was charged to reduce inventory.

Hill Mfg. Co., Lewiston, showed a $610,453 reduction in surplus to $121,-415, due to an operating loss of $310,453 and setting up of a reserve of $300,000 against which was charged $173,488 to re-value inventory.

Edwards Mfg. Co., Augusta, showed an operating profit for the year of $59,912 before inventory adjustment. At the end of the year a reserve of $500,000 was set up from surplus, against which $274,783 was charged to reduce inventory.

York Mfg. Co., Saco, showed a balance sheet deficit of $1,227,524, due to an operating loss for the nine months period ended Dec. 27, 1930, of $131,211, and at the end of the year a charge of $80,365 for adjustment of inventory and reserve for taxes.

### American Bemberg Loss

For the year ended Jan. 4, 1931, American Bemberg Corp., showed a net loss of $482,498, after depreciation and interest, which compares with a net loss of $499,831 for the year ended Dec. 29, 1929. In reported to stockholders, S. R. Fuller, Jr., chairman of the board, said that the company's business was affected adversely by the world-wide business depression, and more particularly by the tremendous drop in prices of raw silk and synthetic yarns.

Current assets on Jan. 4, 1931 stood at $1,493,430 and current liabilities, $83,500, as compared with $2,205,054 and $578,855 respectively on Dec. 29, 1929, the decline in current assets being due in large part to inventory write-off totaling $697,350, or more than 50%.

### American Glanzstoff Profit

American Glanzstoff Corp. showed a net profit of $173,474, after depreciation, interest and provision of $50,000 for contingencies, for the fiscal year ended Jan. 4, 1931. This compares with net loss of $98,964 after all charges for the year ended Dec. 29, 1929. In discussing the showing, S. R. Fuller, Jr., chairman of the board, said that earnings were affected by reduced volume of demand and declining prices for rayon and silk. Current assets on Jan. 4, this year, totaled $2,748,924 and current liabilities, $405,296, as compared with $2,719,244 and $856,450 respectively on Dec. 29, 1929.

### Boston Stock Auctions

The following sales of textile shares were made at auctions, Wednesday, April 22:

| Shrs. | Mill | Price | Ch'ge |
|---|---|---|---|
| 45 | Associated Textile | 36½ | ..... |
| 50 | Pepperell | 79½ | —½ |
| 100 | Naumkeag | 80 | —½ |
| 30 | Ipswich, pfd. | 3 | ..... |
| 225 | Total | | |

## Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended April 21:

| | High | Low | Last Sale | Net Chge. |
|---|---|---|---|---|
| Adams Millis | 28 | 26½ | 26½ | —2½ |
| *American Thread, pfd. | 3½ | 3½ | 3½ | —⅛ |
| American Woolen | 9 | 8½ | 8½ | —⅛ |
| American Woolen, pfd. | 34½ | 31½ | 31½ | —4½ |
| *Assoc. Rayon, pfd. | 59½ | 59½ | 59½ | —½ |
| Belding-Heminway | 3 | 3 | 3 | ..... |
| Botany Mills, A | 2½ | 2½ | 2½ | ..... |
| Cannon Mills | 22 | 21½ | 21½ | —1½ |
| Century Ribbon | 4½ | 4½ | 4½ | —⅛ |
| Collins & Aikman | 13½ | 12½ | 12½ | —1 |
| Consolidated Textile | ⅛ | ⅛ | ⅛ | —⅛ |
| *Courtaulds, Ltd. | 8 | 8 | 8 | —⅛ |
| Duplan Silk | 12½ | 12½ | 12½ | ..... |
| Durham Hosiery, pfd. | 21 | 21 | 21 | —1 |
| Gotham Hosiery | 12½ | 11⅛ | 12 | —⅛ |
| Industrial Rayon | 65 | 32½ | 33½ | —37½ |
| Kayser, Julius | 16½ | 15 | 15 | —2 |
| Kendall, pfd. | 58½ | 55½ | 55½ | —4½ |
| Mallinson | 2⅛ | 2 | 2⅛ | —⅛ |
| Mohawk Carpet | 16½ | 16 | 16 | —1½ |
| Munsingwear | 23 | 23 | 23 | —1 |
| Pacific Mills | 21½ | 20 | 20 | —1½ |
| Real Silk Hosiery | 18 | 16 | 17½ | —1½ |
| *Tubize Chat B | 8 | 7½ | 8 | +⅛ |
| United Piece Dye Works | 25½ | 24½ | 24½ | —1½ |
| Van Raalte | 10 | 10 | 10 | ..... |

* Listed on Curb.

## Rayon Market Report

*(Continued from page 51)*

"obsolete" yarns and their sale at 65c. today simply means that a new and indirect price cut has taken place. The hope of the better minds in the industry now is that the 65c. rayon will end with the present season, and that the approach of fall will find the market buying normal standard yarn at standard prices.

The steady parade of active business without profit becomes a matter of more concern each day. The margin between cost and selling price has been virtually eliminated, and this goes for the entire industry. One of the leading executives in the producing field this week admitted openly that his company was selling at cost, and he added that he did not expect any company in the business to show an appreciable profit for the first half of 1931.

The moral behind such a situation of course, is the need for greater trade-consciousness among producers. Consuming groups do not want rayon at a profitless price; these industries have indicated again and again during the past year that what they want mainly is a stable price-list. The present course of rayon prices is ominous, to say the least.

# QUOTATIONS

at close of business, Apr. 22, 1931
Prices cover average qualities unless otherwise stated

## Cotton Goods

| | April 22 | April 15 | April 23 1930 |
|---|---|---|---|
| **PRINT CLOTHS** | | | |
| 27 -in., 64x60, 7.60. | 3¾c. | 3¾c. | 4¼–4⅜c. |
| 38½-in., 64x60, 5.35. | 5¼–5½c. | 5½c. | 6c. |
| 39 -in., 68x72, 4.75. | 6–6¼c. | 6¼–6⅜c. | 6¼–7c. |
| 39 -in., 72x76, 4.25. | 6¾–7c. | 7–7¼c. | 7⅞–8c. |
| 39 -in., 80x80, 4.00. | 7–7¼c. | 7¼c. | 8⅛–9c. |
| **BROWN SHEETINGS** | | | |
| 36-in., 56x60, 4.00 | 5¾c. | 5¾c. | 7½–7⅝c. |
| 36-in., 48x48, 3.00 | 6¼c. | 6¼–6⅜c. | 9 –9¼c. |
| 37-in., 48x48, 4.00 | 5¼c. | 5¼c. | 6¾–6¼c. |
| **PAJAMA CHECKS** | | | |
| 36½-in., 72x80, 4.70 | 6⅛c. | 6¼–6⅜c. | 7 –7¼c. |
| 36½-in., 64x60, 5.75 | 5¼c. | 5¼–5¼c. | 6¼–6¼c. |
| **MISCELLANEOUS** | | | |
| Drills, 37-in. 3 yd. | 6½–6⅝c. | 6½–6⅝c. | 9 c. |
| Denims, 2.20 | 12 c. | 12 c. | 15 c. |
| Tickings, 8 oz. | 15½c. | 15½c. | 18–19½c. |
| Standard prints | 7¼c. | 7½c. | 9¼c. |
| Eastern staple ginghams, 27-in. | 8 c. | 8 c. | 10 c. |

## Cotton Waste

| | |
|---|---|
| Peeler comber | 8¼– 8½ |
| Peeler strips | 7¾– 8 |
| Sak. comber | 8 – 8¼ |
| Choice willowed fly | 4 – 5 |
| Choice willowed picker | 3 – 4 |
| Sak. strips | 10½–11 |
| Linters (mill run) | 2¼– 3½ |
| White spooler (single) | 7 – 7¼ |

## Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

| | | | |
|---|---|---|---|
| 4s to 8s | $0.17½ | 22s | $0.21½ |
| 10s | .18 | 24s | .22½ |
| 12s | 18 –.18½ | 26s | .23 |
| 16s | 19 –.19½ | 30s | .24–.24½ |
| 20s | .20 | 40s ex.qual. | .35 |

TWO-PLY SKEINS AND TUBES

| | | | |
|---|---|---|---|
| 8s-2 | $0.18 | 26s-2 | $0.24 |
| 10s-2 | .18½ | 30s-2 | .24½ |
| 12s-2 | .19 | 36s-2 | .31½ |
| 14s-2 | .19 –.19½ | 40s-2 | .33 |
| 16s-2 | .19½–.20 | 40s-hi.brk. | .36 |
| 20s-2 | .20 –.20½ | 50s-2 | .41 |
| 24s-2 | .23 | 60s-2 | .50 |

SINGLE WARPS

| | | | |
|---|---|---|---|
| 10s | $0.18 | 24s | $0.22½ |
| 12s | .19 | 26s | .23½ |
| 14s | .19 –.19½ | 30s | .25½– .26 |
| 16s | .20 | 40s.ex.qual. | .36 – .37 |
| 20s | .20 –.20½ | | |

TWO-PLY WARPS

| | | | |
|---|---|---|---|
| 8s-2 | $0.18½ | 22s-2 | $0.23 – .23½ |
| 10s-2 | .18½–.19 | 26s-2 | .24 – .24½ |
| 12s-2 | .19 –.19½ | 30s-2 | .24½– .25 |
| 14s-2 | .19½ | 40s-2 ordin. | .33 |
| 16s-2 | .20 | 50s-2 | .41 |
| 20s-2 | .20 –.20½ | 60s-2 | .50 |

8s-3 and 4-ply skeins and tubes; tinged, 16½; white, 17½; waste, 16

HOSIERY CONES (Frame Spun)

| | | | |
|---|---|---|---|
| 8s | $0.17½–.18 | 22s | $0.21 – .21½ |
| 10s | .18 | 24s | .22 – .22½ |
| 12s | .18½ | 26s | .23 – .23½ |
| 14s | .19 | 30s tying | .24 |
| 16s | .19½ | 30s reg. | .25½ |
| 18s | .20 | 30s ex.qual. | .27 – .27½ |
| 20s | .20½ | 40s | .33 – .34 |

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

| | | | |
|---|---|---|---|
| 20s-2 | $0.32 – .33 | 60s-2 | $0.50 – .52 |
| 30s-2 | .36 – .37 | 70s-2 | .60 – .62 |
| 36s-2 | .38 – .39 | 80s-2 | .72 – .74 |
| 40s-2 | .39 – .41 | 90s-2 | .88 – .90 |
| 50s-2 | .45 – .46 | 100s-2 | 1.08 –1.10 |

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

| | | | |
|---|---|---|---|
| 20s-2 | $0.33 | 60s-2 | $0.51 – .53 |
| 30s-2 | .37 | 70s-2 | .61 – .63 |
| 36s-2 | .39 | 80s-2 | .73 – .74 |
| 40s-2 | .41 | 90s-2 | .89 – .90 |
| 50s-2 | .46 | 100s-2 | 1.10 |

SINGLES

| | | | |
|---|---|---|---|
| 12s | $0.27½ | 30s | $0.34½– .35 |
| 14s | .28 | 38s | .37½– .38 |
| 16s | .28½ | 40s | .38½– .39 |
| 18s | .29 | 50s | .43 – .44 |
| 20s | .29½– .30 | 60s | .49 – .50 |
| 24s | .30½– .31 | 70s | .59 – .61 |
| 28s | .33 – .34 | 80s | .70 – .72 |

MERCERIZED CONES—(Combed, Ungassed)

| | | | |
|---|---|---|---|
| 26s-2 | $0.49 – .50 | 90s-2 | $1.28 –1.29 |
| 30s-2 | .51 – .52 | 100s-2 | 1.58 –1.59 |
| 36s-2 | .54 – .55 | 120s-2 | 1.98 –1.99 |
| 40s-2 | .57 – .58 | 30s | .63 |
| 45s-2 | .59 – .60 | 40s | .68 |
| 50s-2 | .61 – .62 | 50s | .75 |
| 60s-2 | .69 – .70 | 60s | .83 |
| 70s-2 | .81 – .82 | 70s | .95 |
| 80s-2 | .93 – .94 | 80s | 1.15 –1.17 |

## Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

| | Closed April 16 | —For Week— High | Low | Closed April 22 | Net Chge. |
|---|---|---|---|---|---|
| April | 10.05 | 10.22 | 9.98 | 9.98 | —.07 |
| May | 10.15 | 10.37 | 10.05 | 10.05 | —.10 |
| June | 10.27 | 10.45 | 10.18 | 10.18 | —.09 |
| July | 10.39 | 10.63 | 10.32 | 10.32 | —.07 |
| August | 10.51 | 10.72 | 10.46 | 10.46 | —.05 |
| September | 10.63 | 10.86 | 10.59 | 10.59 | —.04 |
| October | 10.73 | 10.97 | 10.68 | 10.68 | —.05 |
| November | 10.85 | 11.06 | 10.79 | 10.79 | —.06 |
| December | 10.97 | 11.22 | 10.91 | 10.91 | —.04 |
| January | 11.05 | 11.29 | 11.00 | 11.00 | —.05 |
| February | 11.16 | 11.38 | 11.10 | 11.10 | —.06 |
| March | 11.27 | 11.52 | 11.21 | 11.21 | —.06 |

SPOT FLUCTUATIONS FOR WEEK
(Middling)

| | New York | New Orleans | Liverpool |
|---|---|---|---|
| Thursday, April 16 | 10.15 | 9.90 | 5.61 |
| Friday, April 17 | 10.15 | 9.90 | 5.55 |
| Saturday, April 18 | 10.30 | 10.04 | 5.59 |
| Monday, April 20 | 10.30 | 10.11 | 5.66 |
| Tuesday, April 21 | 10.20 | 9.92 | 5.63 |
| Wednesday, April 22 | 10.05 | 9.84 | 5.57 |

FOREIGN COTTONS

Egyptian Cotton

| Alexandria Exchange, Apr. 21 | | Change |
|---|---|---|
| May Sak. | 15.58 | —0.70 |
| June uppers | 11.49 | —0.40 |

Apr.-May Shipment c. i. f. Boston
(Tariff not included)

| | |
|---|---|
| Fully good fair Sak | 18.00 |
| Fully good fair to good Uppers | 13.85 |

(By Anderson, Clayton & Co.)

| Foreign cottons | F. O. B. New York, Cents |
|---|---|
| Peruvian Tanguis Strict Middling | 21 |
| Peruvian Pima No. 1 | 20 |
| Peruvian Moderate Rough | 16 |
| Peruvian Full Rough | 21 |
| China Tientsin No. 1 | 10½ |
| India Rough | 7 to 10 |
| India Smooth | 7 to 10 |

(By Gerald G. Loeb, New York.)

BASIS MIDDLING

| | Saturday, April 18 | Saturday, April 11 |
|---|---|---|
| 10 markets average | 9.71 | 9.76 |
| Memphis | 9.15 | 9.15 |

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

| Grade Strict Middling | Prices Steady |
|---|---|
| 1⅛-in. | 12.25—12.55c. |
| 1 3/16-in. | 13.60—13.85c. |
| 1¼-in. | 18.25—18.50c. |

CURRENT SALES

| | For Week | Prev. Week (5 days) | Week Before (5 days) |
|---|---|---|---|
| Memphis total | 9,681 | 8,220 | 9,170 |
| F.o.b. inc. in total | 6,756 | 6,471 | 6,287 |
| 10 markets | 22,264 | 22,252 | 22,697 |

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

| | For Week | Last Year | Year Before |
|---|---|---|---|
| Net receipts | 825 | 4,111 | 9,288 |
| Gross receipts | 10,172 | 17,074 | 22,216 |
| Total since Aug. 1, net | 623,099 | 907,238 | 824,147 |
| Shipments | 28,717 | 30,319 | 28,824 |
| Total since Aug. 1 | 1,162,345 | 1,586,366 | 1,584,660 |
| Total stock | 237,585 | 312,450 | 191,477 |
| Decrease for week | 18,567 | 13,245 | 6,508 |
| Unsold stock in hands of Memphis factors | 24,330 | 45,750 | ..... |
| Increase for week | 737 | 1,429 | ..... |

AVERAGE PRICE APR.-MAY SHIPMENT HARD WESTERN COTTON

F.o.b. New England

| | Middling | St. Middling |
|---|---|---|
| 1 1/16-in. | 12½–12¾c. | 13 –13¼c. |
| 1⅛-in. | 13¼–13½c. | 14 –14¼c. |
| 1 3/16-in. | 15 –15½c. | 15¼–16¼c. |
| 1¼-in. | 20 –21c. | 22 –23c. |

Basis on New York, July 10.46c.

SPOT FLUCTUATIONS AND STOCKS

| Markets | Middling April 14 | Middling April 22 | Sales | Stocks This Week | Stocks Last Year |
|---|---|---|---|---|---|
| Galveston | 10.20 | 10.00 | 3,102 | 549,734 | 260,597 |
| New Orleans | 10.01 | 9.84 | 2,301 | 734,434 | 418,307 |
| Mobile | 9.55 | 9.35 | 588 | 244,679 | 10,346 |
| Savannah | 9.89 | 9.65 | 1,344 | 363,394 | 39,993 |
| Norfolk | 10.06 | 9.88 | 288 | 81,677 | 48,399 |
| New York | 10.30 | 10.05 | 300 | 228,177 | 105,003 |
| Augusta | 9.81 | 9.56 | 663 | 84,719 | 76,047 |
| Memphis | 9.15 | 8.90 | 7,717 | 229,401 | 306,361 |
| St. Louis | 9.50 | 9.45 | ..... | 8,442 | 11,403 |
| Houston | 10.05 | 9.90 | 2,544 | 1,071,318 | 744,847 |
| Dallas | 9.55 | 9.30 | 2,905 | 9,505 | 11,981 |

DIFFERENCES ON AND OFF MIDDLING
WHITE GRADES

| | Dallas | Memphis | Montgomery | Augusta | Average |
|---|---|---|---|---|---|
| M.F | .75† | 1.00† | .85† | .75† | 0.88† |
| S.G.M | .60† | .75† | .75† | .63† | .70† |
| G.M | .50† | .50† | .60† | .50† | .52† |
| S.M | .35† | .25† | .35† | .25† | .31† |
| S.L.M | .50* | .75* | .50* | .50* | .51* |
| L.M | 1.25* | 1.25* | 1.25* | 1.25* | 1.27* |
| S.G.O.** | 2.00* | 1.80* | 2.25* | 1.75* | 2.06* |
| G.O | 2.75* | 2.00* | 3.00* | 2.25* | 2.71* |
| **YELLOW TINGED** | | | | | |
| G.M | .50* | .75* | .50* | .50* | 0.58* |
| S.M | .75* | 1.00* | 1.00* | .75* | 0.93* |
| M.** | 1.50* | 1.25* | 1.50* | 1.25* | 1.43* |
| S.L.M | 2.00* | 1.75* | 2.15* | 2.00* | 2.02* |
| L.M.** | 2.75* | 2.00* | 2.75* | 2.75* | 2.70* |
| **YELLOW STAINED** | | | | | |
| G.M | 1.50* | 1.75* | 1.50* | 1.25* | 1.48 |
| S.M.** | 2.00* | 2.00* | 2.00* | 2.00* | 2.03 |
| M.** | 2.75* | 2.50* | 2.75* | 2.75* | 2.73 |
| **BLUE STAINED** | | | | | |
| G.M.** | 1.50* | 1.50* | 1.50* | 1.50* | 1.53† |
| S.M.** | 2.00* | 1.75* | 2.00* | 2.00* | 2.03* |
| M.** | 2.75* | 2.25* | 2.75* | 2.75* | 2.70* |

**Grades not deliverable on contract. †On Middling *Off Middling.

# Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

| | | | |
|---|---|---|---|
| Fine delne | $0.29–$0.30 | ¾ blood | $0.27–$0.28 |
| Fine cloth | .22– .23 | ½ blood | .22– .23 |
| ¼ blood | .26– .27 | | |

TEXAS AND CALIFORNIA (CLEAN BASIS)

| | | | |
|---|---|---|---|
| Texas, 12 months | $0.61–$0.63 | | |
| California, Northern | .51– .53 | | |

PULLED—EASTERN (CLEAN BASIS)

| | | | |
|---|---|---|---|
| A.A. | $0.68–$0.70 | B-Super | $0.47–$0.52 |
| A-Super | .55– .58 | C-Super | .41– .43 |

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

| | |
|---|---|
| Staple fine | $0.65–$0.68 |
| Staple ½ bld. | .60– .62 |
| Fine and fine medium | .58– .60 |
| ¾ blood | .48– .52 |
| ½ blood | .42– .45 |

MOHAIR—DOMESTIC

| | |
|---|---|
| Best carding | $0.23–$0.25 |
| Best combing | .32– .35 |

MOHAIR FOREIGN (IN BOND)

| | |
|---|---|
| Turkey fair, average | $0.16–$0.19 |
| Cape firsts | .15– .18 |

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

| | |
|---|---|
| Australia: | |
| 70s | $0.52–$0.55 |
| 64s | .45– .48 |
| 58s-60s | .40– .42 |

(IN GREASE)

| | |
|---|---|
| Montevideo: | |
| 58s-60s | $0.20–$0.21 |
| 56s | .19– .20 |
| 50s | .18– .19 |
| Buenos Aires: | |
| 4s, 40-44s | $0.15–$0.16 |
| 5s, 36-40s | .14– .15 |

FOREIGN CARPET (GREASE BASIS IN BOND)

| | |
|---|---|
| Aleppo | $0.22–$0.24 |
| China: Combing No. 1 | .14– .15 |
| China Filling Fleece | .12– .14 |
| Szechuen ass't | .12– .14 |
| Cordova | .14– .15 |
| Scotch black face | .15– .17 |
| East India: Kandahar | .20– .22 |
| Vican'r | .24– .26 |
| Joria | .23– .24 |

# Worsted Yarns

ENGLISH SYSTEM WEAVING

| | |
|---|---|
| 2-20s 36s | $0.77½–0.80 |
| 2-24s 40s | – .85 |
| 2-26s 44s | .87½– .90 |
| 2-28s 46s | .92½– .95 |
| 2-30s 48s | – .95 |
| 2-32s 50s | .97½–1.02½ |

(Single yarns 5c. less than above)

| | |
|---|---|
| 2-36s, 58s | $1.22½–1.25 |
| 2-40s, 60s | –1.32½ |
| 2-40s, 64s | 1.35 –1.37½ |
| 2-50s, 66s | 1.50 –1.52½ |
| 2-60s, 70s | 1.80 –1.85 |

ENGLISH SYSTEM KNITTING

| | |
|---|---|
| 2-20s, 44s in oil | $0.75 –0.77½ |
| 2-20s, 48s in oil | – .80 |
| 2-20s, 50s in oil | .82½– .85 |
| 2-20s, 56s in oil | .92½– .95 |
| 2-20s, 60s in oil | –1.12½ |
| 2-20s, 64s in oil | 1.20 –1.25 |
| 1-18s, 46s dyed | 95 – .97½ |
| 1-18s, 48s dyed | 97½–1.00 |
| 1-18s ,50s dyed | 1.00 –1.02½ |

(Oil yarns 17½c. less)

FRENCH SYSTEM

| | |
|---|---|
| 1-20s, 58s | $1.10 –1.12½ |
| 1-20s, 60s | 1.15 –1.17½ |
| 1-18s, 64s, dyed | 1.37½–1.40 |
| 1-26s, 64s | 1.20 –1.22½ |
| 1-30s, 60s, Warp | 1.22½–1.25 |
| 1-30s, 64s, Warp | 1.25 –1.27½ |
| 2-30s, 64s, Fancy mixes | 1.50 –1.52½ |
| 2-40s, 64s, Zephyrs | 1.37½–1.40 |
| 1-50s, 66s | 1.47½–1.52½ |
| 2-50s, 66s | 1.57½–1.62½ |
| 1-60s, 70s | 1.80 –1.85 |
| 2-60s, 70s | 1.90 –1.95 |

FRENCH SPUN MERINO WHITE

| | |
|---|---|
| 1-30s, 50-50-58s on cops | $1.00 –1.02½ |
| 1-40s, 50-50-60s on cops | 1.15 –1.17½ |
| 1-40s, 50-50-64s on cops | 1.17½–1.20 |
| 1-40s, 50-50-64s Australian cops | 1.20 –1.25 |

Underwear mixes, 3c. additional.
Solid color, 35c. additional.

◆

# Tops and Noils

TOPS—BOSTON

| | |
|---|---|
| Fine (64-66s) | $0.83–$0.87 |
| Half-blood (60-62s) | .78– .80 |
| High ¾ blood (58s) | .68– .70 |
| Aver. ¾ blood (56s) | .63– .65 |
| Low ¾ blood | .60– .62 |
| High ½ blood (50s) | .57– .59 |
| 46s S. A. and N. Z. | .51– .55 |
| 44s S. A. and N. Z. | .50– .52 |
| 40s S. A. and N. Z. | .48– .58 |

TOPS—BRADFORD, ENG. (APR. 17)

| | | | |
|---|---|---|---|
| Fine (70s) | 28 d | ¾ bld. (56s) | 18½d |
| Fine (64s) | 25 d | ½ bld. (50s) | 15½d |
| ¾ bld. (60s) | 23 d | Cross-bred (46s) | 13 d |
| ¾ bld. (58s) | 21 d | | |

NOILS—BOSTON

| | | | |
|---|---|---|---|
| Fine | $0.45–$0.48 | High ¼ bld. | $0.33–$0.35 |
| Half-bld. | .40– .42 | Low noils | .31– .33 |
| Aver. ¾ bld. | .35– .38 | Medium colored | .25– .30 |
| Fine colored | .33– .38 | | |

# Wool Substitutes

WOOL WASTE

| | |
|---|---|
| Lap, fine white | $0.65–$0.68 |
| Lap, fine colored | .48– .52 |
| Hard ends, fine white | .51– .53 |
| Hard ends, ¼ blood white | .35– .38 |
| Hard ends, fine colored | .25– .27 |
| Hard ends, medium colored | .18– .20 |
| Card, fine white | .25– .28 |
| Burr, fine Carbonizing | .30– .33 |

OLD WOOLEN RAGS (GRADED FOR MFRS.)

| | |
|---|---|
| Merinos, Coarse Light | $0.04½–$0.05 |
| Merinos, Fine Dark | .04– .04½ |
| Merinos, Fine Light | .10½– .11 |
| Serges, Blue | .06– .06½ |
| Serges, Black | .06– .07 |
| Serges, Red | .08– .09 |
| Knit, White | .23– .24 |
| Knit, red | .10½– .11 |
| Knit, Light Hoods | .12– .13 |
| Worsted, Light | .05½– .06 |
| Worsted, Blue | .06½– .07 |
| Worsted, Black | .06½– .07 |

# Silk Yarns

THROWN SILK (60 day basis)

| | Nominal |
|---|---|
| Japan organzine, 2 thd. spec. gd. XX. sk. 85% | $3.95 |
| Japan organzine, 2 thd. sp. crack. sk. 81% | 3.55 |
| Japan crepe, 3 thd. gd. XX bob. 83% | 3.70 |
| Japan crepe, 3 thd. sp. crack. bob. 81% | 3.60 |
| Japan crepe, 4 thd. crack bobbins, 78% | 3.50 |
| Japan grenadine, 4 thd. sp. grand singles, 87% | 5.45 |
| Japan grenadine 4 thd. 85% | 5.25 |
| Japan grenadine 3 thd. 90% | 6.55 |
| Canton crepe, 3 and 4 thd. ns. 14/16 on bobbins | 2.30 |
| Hosiery tram, 3 thd. Japan 90% | 4.60 |
| Hosiery tram, 5 thd. Japan, 85% | 3.65 |
| Hosiery tram, crack XX 78% | 3.00 |

SPUN SILK YARNS (Terms: net 30)

| | | | |
|---|---|---|---|
| 40/2 | $3.15 | 60/2 | $3.35 |
| 50/2 | 3.25 | 62/1 | 2.35 |

# Raw Silk

(60 Day Terms. Spot Goods.)

| | 13/15 White | 20/22 White | 20/22 Yellow |
|---|---|---|---|
| Super Grand, 86/88% | $3.35 | $2.60 | $2.55 |
| Special Grand, 85% | 3.05 | 2.50 | 2.45 |
| Grand XX, 83% | 2.20 | 2.45 | 2.40 |
| Special Crack, 81% | 2.60 | 2.40 | 2.35 |
| Crack XX, 78% | 2.50 | 2.35 | 2.30 |
| Extra Extra, 73% | 2.40 | .... | .... |
| Best Extra, 68% | 2.35 | .... | .... |
| Canton filature, new style, 14/16 | | | $1.50 |
| Canton filature, new style, 20/22 | | | 1.45 |
| Tussah filature, 8 cocoon | | | 1.05 |

NATIONAL RAW SILK EXCHANGE

| | Close April 15 | For the Week High | Low | Close April 21 | Net Chge. |
|---|---|---|---|---|---|
| April | 2.43 | 2.43 | 2.34 | 2.37 | —.06 |
| May | 2.33 | 2.34 | 2.29 | 2.31 | —.02 |
| June | 2.30 | 2.33 | 2.29 | 2.31 | +.01 |
| July | 2.30 | 2.32 | 2.27 | 2.29 | —.01 |
| August | 2.30 | 2.32 | 2.28 | 2.30 | .... |
| September | 2.30 | 2.32 | 2.28 | 2.29 | —.01 |
| October | 2.30 | 2.32 | 2.28 | 2.30 | .... |
| November | 2.30 | 2.32 | 2.28 | 2.29 | —.01 |

Total contracts, 841. Total number of bales, 8,410. Total approximate value, $20,184. Trading unit crack xx 78% 13/15 white.

# Domestic Rayon

VISCOSE PROCESS

| Denier | Filament | First Qual. | Second Qual. |
|---|---|---|---|
| 50 | 14 | $2.15 | $1.95 |
| 75 | 18–30 | 1.35 | 1.25 |
| 100 | 18–40 | 1.10 | 1.00 |
| 125 | 36–50 | 1.00 | .90 |
| 150 | 30 | .70 | .67 |
| 150 | 40 | .75 | .72 |
| 150 | 60 | .85 | .82 |
| 150 | 75–90 | .85 | .82 |
| 170 | 24–27 | .75 | .72 |
| 170 | 60 | .85 | .82 |
| 200 | 30 | .75 | .72 |
| 200 | 35–42 | .75 | .72 |
| 300 | 42–62 | .63 | .60 |
| 450 | 54–60 | .63 | .60 |
| 600 | 72–96 | .63 | .60 |
| 900 | 100–144 | .63 | 60 |

Note: So-called "obsolete" yarns, 150/24 and 150/36, still available at 65c.

NITRO-CELLULOSE PROCESS

| Denier | First Qual. | Second Qual. | Denier | First Qual. | Second Qual. |
|---|---|---|---|---|---|
| 75 | $1.35 | $1.25 | 150 | $0.75 | $0 72 |
| 100 | 1.05 | .95 | 175 | .75 | .72 |
| 125 | .95 | .85 | | | |

CUPRAMMONIUM PROCESS

| Denier | Filament | Price | Denier | Filament | Price |
|---|---|---|---|---|---|
| 15 | 24 | $3.10 | 65 | 45 | $2.00 |
| 25 | 24 | 2.85 | 80 | 60 | 1.70 |
| 30 | 24 | 2.60 | 100 | 75 | 1.35 |
| 40 | 30 | 2.40 | 120 | 90 | 1.22 |
| 52 | 30 | 2.20 | 150 | 112 | 1.10 |
| | | | 180 | 135 | .97 |

ACETATE PROCESS

| Denier | Price | Denier | Price |
|---|---|---|---|
| 45 | $2.25 2.75 | 120 | $1.90 |
| 55 | 2.05–2.55 | 140 | 1.30 |
| 65 | 2.45 | 150 | 1.40–1.85 |
| 75 | 1.80–2 70 | 200 | 1.55 |
| 100 | 1.65–2.45 | 300 | 1.50 |

# Rayon Waste

| | |
|---|---|
| Open bleached waste | $0.13½–$0.14½ |
| Open unbleached waste | .11 |
| Bleached thread waste (mfs.) | .10 |
| Bleached thread waste (misc.) | .07– .08 |
| Colored thread waste | .05 |
| Colored clips | .05 |

CONVERTED RAYON WASTE

| | |
|---|---|
| Bleached tops | $0.33–0.35 |
| Unbleached tops | .30 |
| Bleached noils | .12 |
| Bleached garnetts | .13 |
| Unbleached garnetts | .14 |
| Colored garnetts | .12 |

# Silk Waste

| | |
|---|---|
| Kibizzo Kakai Grand XX | $0.54 |
| Kibizzo Kakai Triple Extra | .48 |
| Frison Grand Double | .52½ |
| Pierced Cocoons | .53 |

## Wool Industry Considers Night Work Elimination

The proposal of Eben Whitman, William Whitman Co., in connection with the abandonment of night work for women and children in the wool branch of the industry, following generally along lines that the cotton trade has been adopting recently, was discussed at a meeting of the executive committee of the Wool Institute, Inc., April 18 at the Manhattan Club, New York. The matter had been brought up a short time previously by Mr. Whitman at a meeting of the Institute.

Members of the committee were said to have been favorably disposed toward it. The thought was expressed that it was the right time for wool manufacturers to adopt it in view of the momentum that would be added to their cause as result of success of a similar movement in the cotton industry. While no definite action was taken on it by the committee it was decided that the matter should be presented for action by the board of directors of the Wool Institute at a date to be announced shortly.

## American Institute of Chemists Meets

P. J. Wood, vice-president and general manager, Oriental Silk Printing & Dyeing Co., and president of the American Association of Textile Chemists and Colorists, was speaker at a meeting of the American Institute of Chemists, April 17, at the Chemists Club, New York. Mr. Wood said that large scale industrial development such as has been seen in the textile industry may be traced to the work of the chemist supplying the formulae by means of which such growth has been made possible.

## Universal Industrial Corp. to Operate on Commission Only

Lucien Jouvaud, president of the Universal Industrial Corp., operating mills at Danville, Berwick, Watsontown, Liverpool, Millville, all in Pennsylvania, announces that the company has discontinued the sale of thrown silk. It will hereafter operate as commission throwster only, producing silk and rayon yarns of every description for the weaving and knitting trades.

## Mayer New Head of Wool Marketing Corp.

Sol Mayer, one of the leading sheep operators in the country, is now head of the National Wool Marketing Corp., the Federal Farm Board's organization. Mr. Mayer's home is at San Angelo, Texas. He was elected head of the group at a meeting of the board of directors at Chicago, April 11. The former president was Roger Gillis, Del Rio, Texas. The new president has been in the sheep raising business for more than 40 years and controls 20,000 head of sheep. Mr. Mayer, an enthusiastic supporter of the wool cooperative movement, said, "There is no doubt but that the cooperative will prove of tremendous value to the producers who have sponsored it and are supporting it."

## German Chemists Developing Synthetic Silk on Animal Base

Attempts to develop a new textile fiber which has for its base the fibroin of natural silk are being made by the German chemical and textile industries, according to information contained in a report from Consul General W. L. Lowrie, Frankfort-on-Main, made public by the Department of Commerce. This new textile fiber would be composed of an animal product which approximates albumen, rather than the cellulose base of rayon.

Considerable attention is being accorded to two recent patents for the production of synthetic silk from fibroin, states Consul-General Lowrie. One of these inventions by Von Weimarn consists of the treatment of natural silk waste with solutions of natural salts, such as sodium iodide. At a temperature of 110° C., a viscous colloidal solution is obtained in 10 to 15 min. which contains about 35% of fibroin. The solution is cooled rapidly to the atmospheric temperature and passed through spinnerettes into a coagulating bath. The resultant fibers prove too stiff to be of practical value.

Another process invented by E. Rossner, and assigned to the I. G. Farbenindustrie, employs phosphoric acid as a solvent for fibroin. The solution is prepared at ordinary temperature, but must afterwards be kept at 0° centigrade if not used immediately. One part of waste silk is dissolved in 10 parts 85% acid. The solution is said to be highly viscous and produces long uniform fibers. The coagulating bath consists of sodium chloride or similar alkali salts of weak acid. These salts combine with phosphoric acid to form phosphates, and thus accelerate the process of coagulation, which is obtained in a bath of 25% of sodium chloride and 5 to 10% of ammonium formate. The resultant fibers are said to have a silky appearance and are stretched and wound on bobbins. The tensile strength of the yarn is said to be 1.5 kilograms per denier, and the elastic limit 12 to 15%.

## Form Fashion Guild

Leaders in the styling of merchandise have formed an association to be known as the Fashion Guild, which will have as its chief aim the standardizing of the profession of stylist. Other purposes of the guild are: to develop helpful relationships through group meetings, and to aid beginners in the field of fashion. The guild has headquarters at 8 East 13th St., New York City, and the officers are Marion C. Taylor, president; Miss Marcio Conner, first vice-president; Mrs. Winifred Ovitte, second vice-president; Mrs. Ethel M. Kremer, executive secretary; Mrs. Conway Atwater, treasurer.

## Annual Meeting of A.A.T.C.C. to Be Held in Boston, Dec. 4-5

The American Association of Textile Chemists and Colorists, Rhode Island Section, met Friday evening, April 24, at the rooms of Providence, (R. I.) Engineering Society. Dr. R. E. Rose, director of the technical laboratory of the DuPont company spoke on "Complexity of the Problems of Dyeing." There was a short talk by Ben Verity on "Reminiscences of Forty Years' Printing."

It was announced that the annual meeting of the American Association of Textile Chemists and Colorists will be held in Boston, Mass., on Dec. 4 and 5, 1931. This meeting will be sponsored by the Northern-New England Section.

## Effort to Reestablish Quarterly Wool Stock Reports

At a conference held April 22 at the Chamber of Commerce, Boston, between Department of Agriculture officials, Boston and Philadelphia wool dealers, representatives of National Wool Marketing Corp., and manufacturers, it was decided to refer back to the several organizations the question of reporting quarterly wool stocks on a new schedule covering stocks of National Corporation, of other cooperatives, of dealers, and of manufacturers. The wool trade as represented refused to cooperate on the old basis of reporting as long as the Federal Farm Board was in the picture. Another meeting will be held in the near future.

## Waterman, Currier Acquire Insulating Yarn Plant

Waterman, Currier & Co., Inc., have taken over the insulating yarn business of the Stevens Yarn Co. The plant at which these fine multiple wind yarns are made is located at Conneaut, Ohio, having been moved there from Cedar Grove, N. J. W. G. Banfield, who has been in charge of the plant for Stevens Yarn Co., will remain in that capacity for Waterman, Currier & Co., Inc. The latter concern also announces that Dana M. Martin, formerly of Stevens Yarn Co., New York office, has become associated with them. He will specialize in sale of insulating yarns for Waterman, Currier & Co., Inc.

## Philadelphia Chemists and Colorists Meet

Allen R. Mitchell, Jr., Shackmaxon Mills and head of the Philadelphia Textile Manufacturers Association was a speaker at a meeting of the Philadelphia section of the American Association of Textile Chemists and Colorists held April 24 at the Engineers Club, Philadelphia. Other speakers were Wilfrid Gray, Gray Line Hosiery Mills and a representative from the Philadelphia Chamber of Commerce. It was the best attended meeting held by this group.

# N. C. State College Holds Successful Textile Exposition and Style Show

WITH an attendance record of more than 2,000 visitors, the 12th annual Textile Exposition at North Carolina State College, Raleigh, N. C., April 16, was proclaimed the largest and most successful in the history of that institution. The large auditorium of Pullen Hall was filled almost to capacity during the fourth annual style show in which over 70 young women from six colleges participated.

Miss Mary Louise Johnson, of Raleigh, representing Meredith College was awarded the grand prize for the most attractive dress and was automatically chosen "Textile Queen" of the exposition. The material in her dress was designed and woven by W. R. Shore, Rocky Mount, N. C., and H. L. Shinn, Salisbury, N. C., students of the State College Textile School. First prize winners for the various colleges were as follows:

Louise Gattis, Louisburg, N. C., representing Louisburg College; Agnes Debusk, Glades Springs, Va., for Queens College; Margaret Menges, Hanover, Pa., for Catawba College; Jamye Martin, Sanford, N. C., for Eastern Carolina Teachers College; Grace Carr, Washington, D. C., for Meredith College; and Bessie Wilson, Montreat, N. C., for Peace Junior College.

"The purpose of this style show," Dean Thomas Nelson, head of the textile school said in opening the colorful exhibition, "is to demonstrate the diversification of fabrics that can be made from cotton and rayon and cotton combinations, with the popularization of cotton and rayon goods among the women of North Carolina and America."

Interesting exhibits were thrown open to visitors following the style show.

Student officers of the 12th annual exhibition were as follows: W. R. Rogers, Oakboro, N. C., superintendent; J. P. Garrison, Belmont, N. C., assistant superintendent; W. J. Honeycutt, Franklinton, N. C. foreman of yarn manufacturing; F. L. Wilson, Bakersville, N. C., foreman of weaving; S. G. Riley, of Raleigh, foreman of designing; T. A. Mott, Hickory, N. C., foreman of dyeing; E. W. Freeze, High Point, N. C., foreman of knitting; E. W. Crow, Hanes, N. C., assistant foreman of yarn manufacturing; J. B. Lamar, Spray, N. C., assistant foreman of weaving; C. N. Cone, Greensboro, N. C., assistant foreman of designing; J. E. Gill, Henderson, N. C., assistant foreman of dyeing; H. H. Rankin, Gastonia, N. C., and W. W. Greenhaugh, New Britain, Conn., advertising managers. Pictures of the student officers and the style show winners appear on pages 62 and 63.

## Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended April 18, based upon data compiled by the Market News Service of the Bureau of Agricultural Economics, Department of Agriculture, follow:

| | Week Ended April 18 | Total to Date 1931 | Total to Date 1930 |
|---|---|---|---|
| Domestic | 5,670,000 | 26,466,000 | 21,443,000 |
| Foreign | 2,201,000 | 18,306,000 | 28,847,000 |
| Total | 7,871,000 | 44,772,000 | 50,290,000 |
| IMPORTS AT PRINCIPAL PORTS | | | |
| Boston | 2,201,000 | 18,306,000 | 28,847,000 |
| Philadelphia | 880,000 | 12,452,000 | 22,388,000 |
| New York | 2,234,000 | 17,068,000 | 19,925,000 |
| Total | 5,315,000 | 47,826,000 | 71,160,000 |

## Rayon Underwear Size Conference May 14

A conference on rayon underwear standards, which will be attended by underwear manufacturers and representatives of the Bureau of Standards will be held at 10 a.m. Thursday, May 14, at the Hotel New Yorker, New York City, it is announced by I. J. Fairchild, chief, division of trade standards, Bureau of Standards. Dr. Appel and T. H. Hamlin also of the bureau will attend the conference. Among the items to be discussed are: Spacing of shoulder straps; bandeaux vests with bodice tops; sizes of stepins, elastic waist; rayon princess slips, chemises; panties, elastic waist, yoke front style; bloomers, knee length, elastic at waist and knee, yoke front style; bloomer combination, elastic knee, band bottom; union suits, knee length, bodice top; one-piece pajamas; two piece, tuck-in style, yoke front, and elastic waist trousers; night gowns, shaped, and night gowns straight-lined.

## Progress in Plans for Technical and Market Research

Having surveyed conditions in the textile industry for nearly a year, the Textile Foundation will engage this spring in mapping a broad program of scientific and economic research in collaboration with several of the country's foremost scientists, chemists and physicists. Preliminary arrangements for establishing such contacts were made at a meeting of the directors of the foundation in Washington on April 15, as reported briefly last week. This program will be directed to meet the most urgent needs of the different branches of the textile industry. This program will be essentially scientific in character but attention also will be given to the increasing importance of distribution. A series of studies in the marketing of textiles was authorized by the directors.

There was a distinct feeling that the complex and ever-changing factors in distribution must be studied, old and new methods analyzed, facts and trends charted, and marketing research encouraged. Armed with such information textile manufacturers and distributors can better appraise consumer demand, extend markets and discard costly and wasteful methods, in the opinion of the Foundation's directors. Edward T. Pickard, secretary of the Foundation, now is consulting with interested organizations.

Several months ago the Foundation authorized the United States Institute for Textile Research to assemble data about all organizations and individual companies engaged in research on textile subjects. A preliminary report was submitted to the Foundation by the Institute at the recent meeting.

The American Association of Textile Chemists and Colorists reported that it has engaged the services of several qualified specialists to undertake research work on color and color fastness, a project authorized by the Foundation last December.

## Wool Institute Manager Resigns

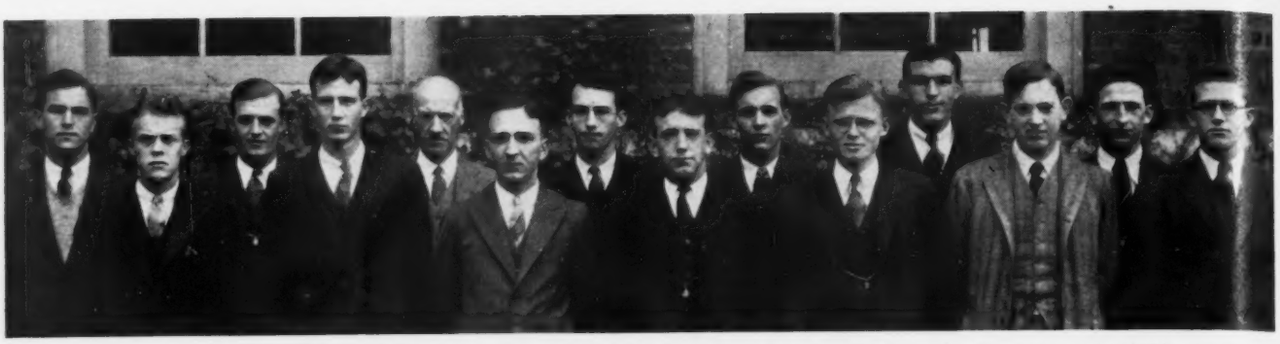
The wool manufacturing trade was surprised this week by the announcement of Bart Murray, managing director of the Wool Institute, Inc., New York, that he had tendered his resignation to the board of directors of the Institute. His letter was addressed to F. W. Tipper, Deering, Milliken & Co., chairman of the executive committee. Mr. Murray stated that he "had no other comment to make other than that my reasons are purely personal." His resignation will be placed before a meeting of the directors at a meeting that has been scheduled for April 29. It is probable that a committee will be appointed at that time to consider a successor to Mr. Murray, who has been in office for less than four months, although connected with the Institute for several years.

## Annual Meeting of Carpet Institute

John A. Sweetser, president, Bigelow-Sanford Carpet Co., Inc., was reelected chairman of the board of directors of the Institute of Carpet Manufacturers of America, Inc., at the annual meeting held April 22 at the Hotel Biltmore, New York. The vacancy on the board caused by the death of J. Y. Dietz Fry of Hardwick & Magee Co., was filled by the election of W. Law, president of the Magee Carpet Co. No action was taken on the naming of a successor to Irving S. Paull, president who recently tendered his resignation effective July 1. Although no official action was taken by members to name a definite date for fall openings a majority indicated that this would be done on June 1 as rumored in the trade for some time. Mills will offer no discontinued patterns before that date, it is understood.

## Army Will Buy Cotton Stockings

Bids will be received by Depot Quartermaster, U. S. Army, Philadelphia, April 28 to supply this department with 45,000 prs., size 11, unbleached cotton stockings. Government will supply the manufacturer with 6,500 lb. combed yarn to be used in making the goods.



STUDENT OFFICIALS OF THE TEXTILE EXPOSITION HELD AT NORTH CAROLINA STATE COLLEGE, APRIL 16, 1931.

*Reading from left to right: E. W. Freeze, assistant foreman of knitting; H. H. Rankin, advertising manager; W. W. Greenhalgh, advertising manager; E. W. Crow, Jr., assistant foreman of yarn manufacturing; Dean Thomas Nelson, Director of Textile School; J. E. Gill, assistant foreman of dyeing; T. A. Mott, foreman of dyeing; C. N. Cone, assistant foreman of designing; S. R. Riley, foreman of designing; A. P. Garrison, assistant superintendent; J. B. LaMar, assistant foreman of weaving; W. R. Rogers, superintendent; F. L. Wilson, foreman of weaving; W. J. Honeycut, foreman of yarn manufacturing.*

# NEWS about MEN

✦ J. H. SEPARK, prominent mill executive, was elected chairman of the board of directors of the First National Bank of Gastonia (N. C.) April 14. R. R. RAY, treasurer, McAden Mills, McAdenville, N. C., and S. A. ROBINSON, secretary and assistant treasurer, Ranlo Mfg. Co., of Gastonia, were elected vice-presidents of the bank. New directors at the annual stockholders' meeting included the following textile manufacturers: KAY DIXON, E. J. RANKIN and C. E. NEISLER, the latter of Kings Mountain, N. C., who died on his way home from the meeting. Old directors re-elected included: J. H. SEPARK, R. R. RAY, S. A. ROBINSON, J. L. GRAY, S. N. BOYCE, who was elected president of the bank, FRED L. SMYRE, R. N. AYCOCK and W. L. BALTHIS.

✦ CHARLES A. CANNON was re-elected president of Cannon Mills Co., which owns numerous textile plants in North and South Carolina and Georgia, at the annual meeting of stockholders held at Kannapolis, April 14. All the present officers were re-elected as follows: A. L. BROWN, J. J. BARNHARDT, A. R. HOWARD, C. E. STEVENSON, W. J. SWINK and FRED WILLIAMS, vice-presidents; G. B. LEWIS, treasurer; E. SAUVAIN and E. G. BOST, assistant treasurers; F. J. HAYWOOD, secretary; T. T. SMITH and J. J. BOYLE, assistant secretaries. Directors: C. A. and M. L. CANNON, J. P. RIPLEY, W. J. SWINK, C. E. STEVENSON, A. R. HOWARD, G. B. LEWIS, GEORGE W. FRAKER, DAVID H. BLAIR, A. L. BROWN and J. J. BARNHARDT.

✦ COL. DON SCOTT, secretary-treasurer, Sidney Hosiery Mills, Graham, N. C., has been nominated by the Democrats for mayor of Graham.

✦ L. N. LITTAUER, president of the Gloversville (N. Y.) Knitting Co., delivered the principal address at the dedication of the new recreational building in the village of Fonda, N. Y.

✦ WALTER C. JONES has been elected vice-president of the Frissell Fabric Co., Middletown, Conn., to succeed the late HOWARD H. WARNER. Mr. Jones is secretary-treasurer of the City Savings Bank, Middletown. FRANCIS A. BEACH has been added to the board of directors.

✦ D. C. DICK, Cobourg, Ont., and A. G. ROSAMOND, of Almonte, Ont., represented the textile manufacturers at the recent conference held in Ottawa to secure closer relationships between the Canadian textile industry and Dominion wood growers.

✦ W. F. CARR, vice-president of the Durham (N. C.) Hosiery Mills, announced himself as a candidate for mayor of the city of Durham. Mr. Carr is at present and has been for 12 years an alderman and mayor pro tem.

✦ G. B. HOWARD, secretary, Spencer Corp., Spindale, N. C., has been nominated for mayor of Spindale to succeed S. E. ELMORE, vice-president and treasurer, Elmore Corp., who has held the position for the last eight years. Mr. Elmore declined to enter the race this year.

✦ HERMANN P. RICCIUS, secretary of Geo. E. Duffy Mfg. Co., Worcester, Mass., sailed from New York on the S. S. "Carinthia" April 14 on a Mediterranean cruise.

✦ HENRY E. RAUCH has been elected secretary of the Amoskeag Mfg. Co., Manchester, N. H., to succeed the late GEORGE WIGGLESWORTH. PEABODY GARDNER, JR., Boston, Mass., fills Mr. Wigglesworth's place as trustee for three years. Other trustees elected were: WILLIAM C. ENDICOTT, WILLIAM DEXTER and CHARLES F. ADAMS.

✦ CONWAY L. ATWATER has been appointed assistant treasurer of the American Woolen Co. and is at present attached to the Boston office. Mr. Atwater has been connected with Guardian Detroit Co. for about five years. He was previously assistant treasurer of Salmon Falls (N. H.) Mfg. Co., now out of business.

✦ FELIX CAFFARENA, of Caffarena Bros., hosiery manufacturers, of Santiago, Chile, was among the foreign trade visitors at the Knitting Arts Exhibition in Philadelphia last week.

✦ H. H. WILLIS, director of the textile department, Clemson College (S. C.), has been appointed contact man for the United States Institute for Textile Research in the states of North and South Carolina, Virginia and West Virginia.

## Textile Calendar

American Association of Textile Chemists and Colorists, Piedmont Section, Spring Meeting, Poinsett Hotel, Greenville, S. C., May 2, 1931.

Exposition of Chemical Industries, Grand Central Palace, New York, May 4 to 9, 1931.

Southern Textile Association, Master Mechanics' Division, Parker District High School, Greenville, S. C., May 8, 1931.

Phi Psi Textile Fraternity, 29th Annual Convention, Bradford Arms Hotel, Sagamore, Mass., May 8 to 10, 1931.

American Society of Mechanical Engineering (including Textile Section), general meeting. Hartford, Conn., June 1 to 3, 1931.

Philadelphia Textile School, Alumni Business Meeting, Philadelphia, June 4; Annual "Cruise" and Banquet, June 5, 1931.

Southern Textile Association, Annual Meeting, Isle of Palms Hotel, Isle of Palms, Charleston, S. C., June 12 to 13, 1931.

The Cotton Manufacturers Association of North Carolina, Twenty-fifth Annual Convention, Sedgefield Inn, Greensboro, N. C., June 19 to 20, 1931.

American Society for Testing Materials, Annual Meeting, Hotel Stevens, Chicago, June 22 to 26, 1931.

Chicago Yarn Men's Circle, Annual Golf Tournament, Nippersink Lodge, Genoa City, Wis., June 24 and 25, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932

✦ R. F. HOWELL, who succeeds GILES L. WILSON, deceased, as field agent of The Cotton-Textile Institute, is a native of Union, S. C. For 18 years, prior to his association with the Institute, he was connected with the Fleitmann interests. First he was with the Union-Buffalo Mills at Union. Later on he went to the New York offices of Fleitmann & Co., selling agents for the Union-Buffalo and other mills. Mr. Howell, according to announcement, will make Spartanburg his headquarters.

✦ JAMES J. DELANEY has been appointed sales manager of Bigelow-Sanford Carpet Co., Inc., as announced by HARRY V. CAMPBELL, vice-president and director of sales. Mr. Delaney has been with the company for the last 19 years and has been secretary and assistant sales manager since 1925. His appointment was made in connection with that of H. L. PRATT as assistant to the director of sales.

✦ EDWARD A. PURRINGTON, with the Farr Alpaca Co., Holyoke, Mass., since 1902, and occupying responsible positions, has been appointed agent of the company to fill the vacancy caused by the death of HOWARD F. METCALF. JOSEPH METCALF has been appointed assistant agent.

✦ H. Y. MCNEIL, general manager of the Fonda (N. Y.) Glove Lining Co., has returned from a sojourn to the West Indies.

*LEFT, Miss Mary Louise Johnson, Raleigh, N. C., representing Meredith College, Raleigh, the winner of the grand prize at the Textile Exposition and Style Show held at the Textile School, North Carolina State College, April 16, 1931, and* RIGHT, *the winners of first prizes in the various groups, in which 71 young ladies from six North Carolina Colleges competed with them.*

✦ HERBERT S. MORROW, manager of the Pawtucket (R. I.) branch of the U. S. Finishing Co., described the dyeing, printing and finishing industries in a radio talk last week.

✦ CARL T. MATMANN, JR., has resigned as weaving technician for the American Enka Corp., Enka, N. C. No successor has been appointed as yet.

✦ D. W. BAUMGARDNER, formerly superintendent of the Eagle Yarn Mills, Inc., of Belmont, N. C., and R. L. PAINTER, an experienced hosiery man, formerly of Belmont, are now superintendent and assistant superintendent, respectively, of the C. H. Bacon Co., Lenoir City, Tenn.

✦ J. H. COLE has taken the position as superintendent of manufacturing with the Warrensburg (N. Y.) Woolen Co.

✦ WILLIAM P. HAACK, office manager of the Slater Mills, Inc., Webster, Mass., has been promoted to assistant treasurer.

# *Obituary*

## Morton H. Meinhard

Morton H. Meinhard, president, Morton H. Meinhard & Co., Inc., New York, died April 15, on board the S.S. "Resolute" while en route from Kobe to Yokohama, Japan, according to cable advices received last week and briefly reported in our issue for April 18. He was prominent as a wool goods factor, and widely known through his philantrophic work. He was 58 years old, and had started on a world cruise early this year, accompanied on the trip by his wife.

Mr. Meinhard was born in Savannah, Ga., Aug. 13, 1872 and came to New York in 1892, entering business on his own account in 1898. At that time he acted as selling agent for a number of woolen and worsted mills, including some of the largest and best known in the country. Among them the Cleveland (Ohio) Worsted Mills. He had a long and successful career as selling agent for the last named concern. Since 1923 the firm of which he was the head has been serving as factors and merchandise counsellors to woolen, worsted, cotton, rayon, silk hosiery and underwear mills. The business was incorporated last year as Morton H. Meinhard & Co., Inc., with a capital of $3,000,000.

In 1914 he founded the Henry Meinhard Memorial Neighborhood House in honor of his father, located at 28 and 30 East 101st St., New York and upon which it has been estimated that Mr. Meinhard has spent more than half a million dollars. He was also a trustee of the Hebrew Orphan Asylum; one of the founders and first president of the Stuyvesant Neighborhood House; a director of the Boys Club Federation and a founder of the Federation for the Support of Jewish Philanthropic Societies of New York. He was also a director of the Hebrew Technical Institute and of the Corner Houses, homes for working boys.

Mr. Meinhard is survived by his widow, and four sisters. He was a member of the Century Country Club, the National Republican Club, a director of the Aldine Club and a member of Temple Emanu-El.

## Charles Eugene Neisler

Charles Eugene Neisler, aged 63 years, president, Neisler Mills, Inc., Kings Mountain, N. C., died suddenly near there April 14. He was born in Concord, N. C., Feb. 9, 1868, and was actively identified with the cotton manufacturing industry from early youth. Mr. Neisler went to Kings Mountain in 1893 as superintendent of Kings Mountain Mfg. Co., a position which he held for 25 years. In 1899 he assisted in organizing the Indian Creek Mfg. Co., near Lincolnton, N. C., and served as manager of this concern until 1907. In 1919 he built the Margrace Mills and the Patricia Mills. Mr. Neisler was treasurer of Bonnie Cotton Mills, Inc., and the First National Bank of Kings Mountain, and was elected a director of the First National Bank of Gastonia on the day of his death.

## Kenneth R. Hooker

Kenneth R. Hooker, formerly president of Putnam-Hooker Co., New York and connected with Iselin-Jefferson Co., since the two firms became affiliated, shot himself on April 16 at Larchmont, N. Y. He was 52 years old and was well known in the cotton goods trade. The firm of Putnam-Hooker was established in Cincinnati, Ohio, in 1842 by B. T. Stone and in 1864 James J. Hooker joined the concern. In 1906 a branch was established in New York, and in 1919 the main office was moved to that city. Announcement of the merger of the firm with Iselin Jefferson Co., was made in 1928.

## Blow Grover

Blow Grover, 53 years of age, vice-president of Cooper's Ltd., and for 25 years a prominent figure in men's knitwear wholesaling in Los Angeles, died April 13 at his home there. Mr. Grover went to Los Angeles from Lincoln, Neb. He organized and was president of Blow Grover Co., wholesaler of men's wear, later sold to Cooper, Coates & Casey. He joined the firm of Cooper, Inc., of Kenosha, Wis., 17 years ago.

## L. S. Hereford

Lewis Stirling Hereford, aged 56 years, treasurer of the Carolina Cork Roll Co., is dead. Mr. Hereford enjoyed the distinction of having established the first Piggly Wiggly store in Charlotte.

# NEWS about MILLS

*Clark Thread Co., has awarded contracts on heating, fire protection and air conditioning installations for the new Austell (Ga.) plant to Grinnell Co., Inc., and American Moistening Co., while the steel tank will be furnished by the R. D. Cole Mfg. Co., Newnan, Ga. J. E. Sirrine & Co., Greenville, S. C., are the engineers.

**Berkshire Fine Spinning Associates, Inc.**, Adams, Mass., shut down all departments for an indefinite period last week. The plant has been operating on a curtailed schedule in some departments. More than 800 employees are affected.

***Lancaster Mills**, Clinton, Mass., in liquidation, expect to wind up their affairs in full by June 1 or shortly thereafter. The mills have no office at present, it having been sold recently to the Clinton Citizens Trust with all the other property.

**Nonquitt Spinning Co.**, New Bedford, Mass.—At a special meeting of stockholders, it has been voted by a majority of about two to one, to continue production at the plant, and not liquidate the company, as has been previously proposed.

**Chautauqua Towel Mills, Inc.**, Jamestown, N. Y., have filed notice of dissolution with the Secretary of State. The plant has been in continuous operation for more than 25 years. It was recently acquired by Donald R. Livengood and associates. All finished and raw material is being disposed of and it is planned soon to offer the plant and equipment for sale.

**W. H. Draper & Sons Co.**, Rocky Mount, N. C., have purchased and installed in their mill equipment for conditioning their cotton, furnished by Borne Scrymser Co., New York, known as Breton Minerol Process.

**Ridge Mills, Inc.**, Gastonia, N. C., have installed another new warp machine similar to the one recently installed, which singes and gases the yarn as it is wound into warp.

**Revolution Cotton Mills**, Greensboro, N. C., on April 17, began operating on a five day a week schedule, shutting down Friday at the usual time, instead of on Thursday evening, on account of increased orders for flannels.

**Caraleigh Mills Co.**, Raleigh, N. C., which has been idle since last fall, may be started up again in the near future. Plans for the organization of an operating company with capital of $75,000 to lease the plant, with privilege of renewing the lease from year to year for a period of five years, and to have an option to purchase the property within the five-year period for $158,000, have been approved by the directors and will be submitted for final action by the stockholders on April 28.

**Pilot Mills Co.**, Raleigh, N. C., was recently organized with authorized capital stock of $200,000 by K. G. Hudson and C. S. Tatum, of Raleigh, and W. H. Belk, Charlotte, N. C., head of the Belk chain of department stores in the Carolinas. The new company has purchased the Pilot plant of **Consolidated Textile Corp.**, equipped with 10,752 spindles and 500 looms, but future plans of the new organization have not been announced. The plant formerly produced chambrays and colored upholstery materials for the automobile trade. C. S. Tatum, one of the incorporators, has been resident manager of the Pilot Division for several years.

**Edna Mills Corp.**, Reidsville, N. C., has been granted a charter to engage in the manufacture of cotton, woolen, rayon, silk and other fabrics. The concern has 4,000 shares of stock of no nominal or par value, with ten shares subscribed. Incorporators are J. B. Ripkin, of Reidsville; J. W. Norwood, of Greenville, S. C., and J. M. Rivers of Charleston, S. C.

**Lorraine Mfg. Co.**, Westerly, R. I., is now employing 75 hands in the warping, carding and combing departments. It is planned to resume weaving shortly and it is believed the entire plant will be in operation within two weeks.

**Norris Cotton Mills Co.**, Cateechee, S. C., has resumed night work, the plant now maintaining an operating schedule of 40 hours in the day and 40 hours on night work.

**Dixie Mercerizing Co.**, Lupton City, Tenn., is maintaining a day and night operating schedule, according to an announcement.

## *Wool*

**Bigelow-Sanford Carpet Co., Inc.**, Thompsonville, Conn., is working on a special contract for more than 37,000 yd. of carpets and rugs for the new Waldorf-Astoria Hotel, New York. Work has been divided among several of the Bigelow-Sanford mills.

***Channing Smith Textile Corp.**, Cherry Valley, Mass., has been taken over by a group of its largest creditors, according to Joseph Talamo, trustee in bankruptcy. It is planned to operate.

***Perryville Woolen Mills, Inc.**, Webster, Mass. The new outside interests who have purchased this property from Luman H. Tiffany and George H. Hall contemplate making alterations and improvements before resuming operations early in May.

**Smith Mills, Inc.**, Worcester, Mass., which made a 10% wage reduction on April 6, have made a readjustment of the wage scale downward. The mills returned to full-time this week.

**Thomas Oakes & Co.**, Bloomfield, N. J., have awarded general contract to Salmond, Scrimshaw & Co., Arlington, N. J., for a one-story addition, 59x122 ft., estimated to cost $24,750, with equipment. It will be used primarily as a wool storage unit. James F. Scrimshaw, Arlington, is architect.

***Asheville (N. C.) Weavers, Inc.**, will begin operations with ten looms in the Wilson Building in Kenilworth on or before May 15, S. Sheero, of New York, president of the corporation, announced. The looms are being built by C. Stauffer, of Biltmore. Approximately 20 weavers will be employed at the start, and probably this force will be increased later.

**Thos. Kay Woolen Mill Co.**, Salem, Ore., producing mustang cloth, stag shirtings, mackinaws, etc., has recently installed $5,000 worth of new equipment in its plant.

**Perseverance Worsted Co.**, Woonsocket, R. I.—The proposed sale of equipment at this mill, soon to close permanently, has been placed with the W. B. Dunn Co., Providence, R. I. Real estate holdings will also be disposed of.

**S. & L. Combing Co., Inc.**, Woonsocket, R. I., has been organized with a capital of $10,000, to operate a local wool-combing mill. The company is headed by Leroy B. Smith, and Julius A. Lofdal, 23 Bow St., Cranston, R. I. Last noted will represent the company.

## *Knit*

**United Underwear Co.**, Chicago, Ill., manufacturer of women's rayon underwear, has been merged with the **Portage (Wis.) Underwear Mfg. Co.**, the United plant having been consolidated with that of Portage.

**Pauline Hosiery Mills, Inc.**, Evansville, Ind., have been purchased by Shane Mfg. Co., and for the present 20 persons will be employed. A production schedule of 750 dozen pairs of hose a week will follow. Rayon hosiery will be the specialty of the company, of which Norman A. Shane is president.

**Clementon Hosiery Co.**, Camden, N. J., recently organized with capital of $250,000, to operate a knitting mill in this vicinity, will be represented by Francis J. Smith, Wilson Bldg., Camden, an attorney. The incorporators include Royal F. Morris and Max Maier, both of Philadelphia, Pa.

**Indicates previous mention of project.*

**Stanton Hosiery Mills,** Hackettstown, N. J., have been organized with a capital of 1,000 shares of stock, no par value, by Stanislau Zardecki, president of the **Hackettstown Silk Hosiery Co.,** with local mill on Stiger St. It is understood that the new company will take over and succeed the last noted organization. Theodore Adamski, Quakertown, Pa., is an incorporator of the new company.

**Utica (N. Y.) Knitting Co.,** has advanced the wages of employees 10%, placing the wage scale on the same basis as last year, or before a reduction of 10%, as became operative Jan. 1, last. **Augusta Knitting Corp.,** has made the same wage revision at its local mill.

*Asheville (N. C.) Hosiery Co.'s plant addition is being built by E. J. Tyler, Asheville.

**Nu-Fashioned Hosiery Mills, Inc.,** Murphy, N. C., are planning early resumption of operations, following recent purchase of a substantial interest in the mill by local citizens and a reorganization of the company. W. M. Fain has been re-elected president.

**Champion Knitting Mills,** Chattanooga, Tenn., and **Marietta (Ga.) Knitting Co.,** which were recently merged into a single corporation, will be capitalized at $500,000. An application for reincorporation has been filed in Chattanooga, it was stated. The application was signed by Clyde Wilkins, president of Champion Knitting Mills; Guy H. Northcutt, H. T. Bryam, Charles A. Noone and F. Carlton Wright.

# Silk

**Canova & Simone Silk Co., Inc.,** Paterson, N. J. The proposed new addition to this mill is being temporarily held up, but is expected to proceed at an early date. It will be one-story, 49x100 ft., with one-story adjoining unit, 20x21 ft. Lockwood Greene Engineers, Inc., New York, are architects and engineers.

**Rayon Ribbon Co.,** Paterson, N. J., recently organized with capital of $40,000, to operate a local silk and rayon mill, will be represented by Koch & Simon, 146 Washington St., Paterson, attorneys. George Hilaire, Clifton, N. J., is one of the incorporators.

**Champlain Silk Mills,** Whitehall, N. Y., according to rumor, have been taken over by the **American Silk Spinning Co.,** and arrival this week of a consignment of electric motors from Providence, R. I., is believed to confirm the report.

**E. M. H. Rayon & Silk Weavers,** Burlington, N. C., with authorized capital stock of $250,000, has been formed by Lynn B. Williamson, Walter M. Williams, J. M. Fowler and J. R. Copland.

# Finishing

**Hope Dyeing & Finishing Co.,** Burrillville, R. I. The first meeting of creditors of this company has been held. P. Francis Cassidy has been appointed trustee in bankruptcy, in bond of $1,000.

**Rock Hill (S. C.) Printing & Finishing Co.** is now operating on full day and night schedule. During the past month over 5,000,000 yd. of cloth have been printed.

**Montville (N. J.) Finishing Co.** has been sold to the Patex Fibre Corp. The sale comprised 28 acres of land, mill buildings, machinery and equipment. The broker in the sale was H. M. McCord, 100 East 42nd St., New York.

**Strengs Dye Works, Inc.,** Paterson, N. J., have awarded general contract to J. H. Steele & Son, 48 North Second St., Paterson, for a two-story addition, 84x89 ft., to be used for expansion in the silk printing department, estimated to cost $31,600 with equipment. John C. Van Vlandren, 140 Market St., Paterson, is architect.

**Indicates previous mention of project.*

# Textile Patents

BEAM DYEING machine. 1,799,421. William P. Hornbuckle and Robert F. Craig, Stanley, N. C.

COTTON cleaner. 1,799,556. William L. Hancock, Dallas, Texas. Assigned to the Murray Corp., Dallas, Texas.

COTTON gins, Belt distributor for. 1,799,544. Bronson C. Woodford, Joseph Behle and Joshua C. Conrad, Dallas, Texas. Assigned to The Murray Corp., Dallas, Texes.

COTTON harvester. 1,800,145. John M. King, Amarillo, Texas. Assigned to Edgar H. Petty, Amarillo, Texas.

DRAWING mechanism for fibrous material. 1,799,448. George West, Whitinsville, Mass. Assigned to Whitin Machine Works, Whitinsville, Mass.

FLUID TREATMENT of artificial silk threads or filaments. 1,799,972. Joseph Brantwood, Manchester, England.

LOOM. 1,799,860. Karl Mutter, Triptis, Germany.

LOOMS, Stop motion for. 1,799,250. Albert Rigby, Paterson, N. J. Assigned to Gilt Edge Silk Mills, Paterson, N. J.

MACHINE for knitting terry-looped fabric. 1,800,092. Harry McAdams, Philadelphia, Pa.

MEANS for producing combined woven and knitted fabrics. 1,799,563. Charles F. Lee, Philadelphia, Pa. Assigned to Warren P. Griffiths, (one-half), Philadelphia.

PROCESS for dyeing textile fibers. 1,799,825. Jean George Kern, Waltham, Mass., and Charles J. Sala, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del.

PROCESS of dyeing textile fibers. 1,799,823. Jean George Kern, Waltham, Mass., and Charles J. Sala, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del.

PROCESS of opening and repairing artificial staple fibers. 1,799,399. Meinrad F. Thomas, Fitchburg, Mass.

SPINNING frame and spindle-drive mechanism. 1,799,896. Joseph Graveline, Moosup, Conn.

TENTER CLIP. 1,799,447. George W. Taylor, Wellesley, Mass.

TENTERING and drying machine. 1,799,300. Charles C. Kenyon, Somerville, N. J.

TENTERING and drying machine. 1,799,301. Charles C. Kenyon, Somerville, N. J.

TEXTILE MACHINE. 1,799,915. Thomas Lewis, Scranton, Pa. Assigned to the Scranton Silk Machine Co., Scranton, Pa.

THREAD tensioning device. 1,799,666. Rudolph Wuertz, Reading, Pa.

YARN, Processing or treating. 1,799,230. Joseph A. Harron, James J. Diamond and Gustav Bly, Philadelphia, Pa.

# RECENT TEXTILE MILL STATEMENTS

| Name and Address of Company | Line of Business | * Fiscal Year | Assets | | | | | | Total | Liabilities and Capital | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cash and Debts Receivable | Raw Materials, Mdse., Etc. | Total Quick Assets | Real Estate, Buildings and Machinery | Miscellaneous Amount | Miscellaneous Description | | Accounts Payable, Floating and Funded Debt | Capital Stock | Surplus Profit and Loss Reserves Etc. |
| | | | $ | $ | $ | $ | $ | | $ | $ | $ | $ |
| Shore Mills | Cotton | Dec. 31, 1930 | 40,914 | 158,905 | 199,819 | 1,403,171 | 76,000 | Treasury Stock | 1,678,990 | 164,481 | 1,200,000 | 314,950 |
| Fall River, Mass. | | Dec. 31, 1929 | 39,494 | 124,227 | 163,721 | 1,410,313 | 4,333 | Miscellaneous | 1,578,367 | 204,757 | 1,200,000 | (1) 261,502 |
| Pilgrim Mills | Cotton | Dec. 31, 1930 | 158,192 | 301,952 | 460,144 | 1,414,606 | 19,245 | Miscellaneous | 1,893,995 | 72,058 | 1,069,400 | 752,537 |
| Fall River, Mass. | | Dec. 31, 1929 | 53,201 | 777,036 | 830,237 | 1,401,692 | 121,187 | Miscellaneous | 2,353,116 | 188,446 | 1,200,000 | 946,670 |
| Maverick Mills | Cotton | Dec. 31, 1930 | 305,979 | 113,809 | 419,788 | 1,757,597 | 1,222,547 | Miscellaneous | 3,399,932 | 1,095,373 | 505,800 | 1,798,759 |
| Boston, Mass. | | Dec. 31, 1929 | 682,042 | 368,774 | 1,066,816 | 1,749,809 | 542,313 | Miscellaneous | 3,358,938 | 1,159,573 | 505,800 | 1,693,565 |
| New Bedford Cordage Co. | Jute | Dec. 31, 1930 | 154,992 | 283,103 | 438,095 | 541,209 | 199,640 | Investments | 1,178,944 | 4,969 | 668,070 | 505,905 |
| New Bedford, Mass. | | Dec. 31, 1929 | 217,630 | 327,248 | 544,878 | 537,376 | 199,718 | Investments | 1,281,972 | 29,700 | 663,370 | 588,902 |
| Schuster Woolen Co. | Wool | Dec. 31, 1930 | 254,907 | 179,793 | 434,700 | 298,497 | 157,524 | Investments | 809,721 | ..... | 600,000 | 290,721 |
| East Douglas, Mass. | | Dec. 31, 1929 | 364,698 | 260,956 | 625,654 | 319,722 | ..... | ..... | 945,376 | ..... | 600,000 | 345,376 |
| Berkshire Woolen Co. | Wool | Dec. 27, 1930 | 286,532 | 193,421 | 479,953 | 496,004 | 281,283 | Miscellaneous | 1,257,240 | 29,478 | 450,000 | 777,762 |
| Pittsfield, Mass. | | Dec. 27, 1929 | 327,145 | 245,296 | 572,441 | 488,183 | 287,552 | Miscellaneous | 1,348,176 | 162,815 | 450,000 | 735,361 |
| Whittenton Mfg. Co. | Cotton | Dec. 27, 1930 | 496,896 | 1,358,102 | 1,854,998 | 1,121,712 | 5,148 | Miscellaneous | 2,981,858 | 252,348 | 2,150,000 | 579,510 |
| Taunton, Mass. | | Dec. 31, 1929 | 753,556 | 1,640,706 | 2,394,262 | 1,211,524 | 7,200 | Miscellaneous | 3,612,986 | 400,591 | 2,200,000 | 1,012,395 |
| Lawton Spinning Co. | Cotton | Dec. 31, 1930 | 183,727 | 481,593 | 665,320 | 1,266,485 | 16,455 | Insurance | 1,948,260 | 1,853 | 1,449,500 | 496,907 |
| Plainfield, Conn. | | Dec. 31, 1929 | 395,057 | 639,700 | 1,034,757 | 1,302,344 | 100,808 | Miscellaneous | 2,437,909 | 7,287 | 1,800,000 | 630,622 |
| Consolidated Textile Co. | Cotton | Jan. 3, 1931 | 2,605,540 | 1,896,405 | 4,501,945 | 9,570,979 | 49,694 | Deferred Chgs. | 14,122,618 | 11,124,683 | 2,977,935 | ..... |
| New York, N. Y. | | Dec. 28, 1929 | 3,480,683 | 4,735,576 | 8,216,259 | 9,757,766 | 107,188 | Deferred Chgs. | 18,081,213 | 12,672,078 | 5,409,135 | ..... |

(1) Deduct deficit of $87,890.

# Business Literature

**Optical Instruments for Textile Industry.** Impressed with the interest which the textile industry is taking in scientific research, the Bausch & Lomb Optical Co., Rochester, N. Y., has just issued a special catalog describing the various microscopes, pick counters, magnifying glasses, photomicrographic cameras, projectors, dye-analyzing spectrophotometers, hydrogen-ion colorimeters, and other optical instruments of special application to textile work. To an industry just launching an extensive program of fundamental research, as is the textile industry, a catalog of this character should prove particularly welcome.

In preparing this volume the manufacturer's organization has conducted a careful study of textile requirements. The book is arranged to aid the technologist in finding the instrument best fitted for his work and to suggest other uses for it. The latter purpose should prove an important factor to the laboratory worker in getting a purchase order through the executive department of his mill.

As a result of the study made, some experimental work has recently been conducted by the optical company in the designing of new instruments for the textile field. Prof. Edward R. Schwarz, of the Massachusetts Institute of Technology, whose series of articles entitled "Don't be Afraid of the Microscope" is well known to TEXTILE WORLD readers, wrote sections of the book and read the entire manuscript. Other textile men aided in its preparation.

It is pointed out by the Bausch & Lomb company that "optical knowledge is not necessary for most textile examinations by means of the instruments described. Anyone can stretch a fiber out on a piece of glass and hold it down with a piece of gummed paper or cover glass. Anyone can look into a microscope tube and focus a specimen up to 200 to 300 times magnification."

**Applied Photography.** Noteworthy examples of photography as used for various business purposes fill the pages of *Applied Photography*, a new magazine published by the Eastman Kodak Co., Rochester, N. Y., which makes its appearance May 1. The magazine is part of a program to assist industrial and business firms in applying photography effectively in research, manufacturing, advertising and sales work. The scope of the new magazine includes the industrial applications of still and motion pictures, photomicrography, radiography, and other forms of photography. Each issue presents a different business objective, and illustrates how photography can aid in attaining it. The first issue deals with the question of obtaining photographs for advertising and sales purposes — photographs showing the performance or utility of products.

**How to Increase Belt Conveyor Life:** W. E. Philips, engineer, Link-Belt Co., Chicago, has written a brief but interesting statement on increasing conveyor belt life, stressing the following five points: (1) Lubrication, sufficient and proper kind of grease; (2) Cleanliness, space under belt to be kept clean; (3) Loading, avoid overloading and underloading, belt speed should be adjusted to load at proper capacity; (4) Wear, avoid side scraping and dragging idlers; (5) Training, train the belt while empty and if it runs out of line while loaded it will be due to unequal loading, belt must contact center roll of idler, side or guide rollers should not be used in training belt, do not increase belt tension.

●

## Textile Color Card Ass'n Holds Annual Meeting

The widened activities of the Textile Color Card Association during the year 1930 were outlined by Margaret Hayden Rorke, secretary and managing director, in her report read at the sixteenth annual meeting of the association, held at the Hotel Astor, New York, recently.

Mrs. Rorke stated that during the year, the association had gained 242 new members, the largest increase since 1927 and the third largest since the founding of the association in 1915. She pointed out that interest in the association is constantly increasing abroad, as evidenced by the many foreign countries listed among the new members.

She also stated that the movement to promote color correlation in the department stores through concerted industrial effort has attracted favorable comment from leading retailers and manufacturers; a larger and far-reaching coordination of inter-committees representing the textile and allied industries has been effected, and the way has been paved for constructive color conferences.

The following officers and directors were elected at the meeting:

Charles Pinnell, Fred Butterfield & Co., president; Roy E. Tilles, Gotham Silk Hosiery Co., 1st vice-president; John C. McKeon, Laird, Schober & Co., 2nd vice-president; Alfred L. Simon, Alfred L. Simon & Co., treasurer; Albert L. Gifford, Worumbo Co.; William Hand, John Hand & Sons; Edward S. Johnson, James G. Johnson & Co.; P. J. Wood, Oriental Silk Printing Co.; Armand Schwab, Amberg, Schwab & Co., and Margaret Hayden Rorke, secretary and managing director, Textile Color Card Association.

## Iselin-Jefferson Organize Yarn Department

Iselin-Jefferson Co., New York, has organized a cotton yarn sales department, a new departure for this firm, which has confined its activities heretofore to the goods end of the business. The cotton yarn department has been placed under the supervision of Edward H. Ellis, recently a member of Schoolfield Ellis Co., cotton yarns, New York, and previously with the Bibb Mfg. Co., and the Ensign Cotton Mills. It is announced that the new cotton yarn department will confine its activities to direct selling and will not enter the commission house nor sales yarn dealer field. It is the intention in the near future to have yarn representation in such selling centers as Boston, Philadelphia and Chicago. Both weaving and knitting yarns will be handled and combed, as well as carded qualities.

# Business News

## J. F. Walsh Joins Arthur D. Little, Inc.

James F. Walsh, formerly vice-president and technical director of Celluloid Corp., has joined the consulting staff of Arthur D. Little, Inc., of Cambridge, Mass.

## G.E. Sales for First Quarter Show Reduction

Orders received by the General Electric Co. for the first quarter of 1931 amounted to $60,366,297, compared with $90,397,731 for the corresponding three months of last year.

## Bausch & Lomb to Collect Textile Data

A department has been established in the Bausch & Lomb Optical Co., Rochester, N. Y., to contact various industries and keep a file of all uses to which optical instruments are put. The company expresses the hope that new uses will be reported to it by men in the textile industries, who may also call on them for optical information. A book will be published as soon as sufficient information resulting from this cooperation is available.

## Gilmer Buys Panama Rubber Co.

The L. H. Gilmer Co., Tacony, Philadelphia, Pa., recently completed the purchase of the entire capital stock together with all assets of the Panama Rubber Co., Chicago, Ill. All fixtures and machinery of the Panama Rubber Co. have been shipped from Chicago to Philadelphia where the Gilmer activities are concentrated. Hereafter all Panama rubber belts which have been known by their trade mark of "Kable-Kord" will be manufactured by the Gilmer organization as "Gilmer-Kable-Kord" belts.

## New Officers for Cocker Machine & Foundry Co.

Cocker Machine & Foundry Co., Gastonia, N. C., has announced its reorganization following the recent consummation of a transaction whereby George B. Cocker acquired the interests of former officers in the company: T. L. Craig and J. Robert Craig, of Gastonia, and D. J. Craig, Charlotte, N. C. The new organization is composed of the following officers and directors: George B. Cocker, president; J. B. Reeves, secretary and treasurer; A. G. Myers, S. N. Boyce and E. B. Denny, directors. E. K. Whitener is plant superintendent and engineer.

## Westinghouse Stockholders Re-elect Directors

Stockholders of the Westinghouse Electric & Mfg. Co. re-elected directors whose terms had expired and transacted routine business at a meeting at East Pittsburgh, Wednesday, April 8. Directors re-elected were: E. M. Herr, vice-chairman, and L. A. Osborne, vice-president of the Westinghouse company; H. B. Rust, president of the Koppers company; and Samuel M. Vauclain, chairman of the board, Baldwin Locomotive Works.

In reply to an inquiry as to present earnings, Mr. Merrick said that operations during the months of January and February resulted in a deficit.

# Forecasting Production Needs

*(Continued from page 24)*

The average yardage of all months is 649,000, times 62 equals 402,380 yards for November.

That figure is the actual forecast by the graphs. To this index, adjustments must be made from personal knowledge of the situation and from opinions of experts, such as Fairchild's Textile Apparel Analysis, Haney in TEXTILE WORLD, *Men's Wear, The Retail Ledger* and the *Daily News Record,* plus a consideration of the future policies of the Botany management. From this knowledge one must sift the best as to whether it is necessary to raise, lower or leave as is the graphic figure, by comparing its relation to other months and general trade in the industry. Therefore, in the case of November, we should say after observation that the graphic figure is slightly high and would subtract 5,000 yards from the sales for the month. This gives a final figure for November of 397,380 yards.

This same process is repeated for every month and following are the readings and adjustments:

| Month | Graphic Average | Seas'nl Factor | Graphic with Seas'nl | Graphic No. transposed to Index | Adjustment in yards | Forecast in yards Index |
|---|---|---|---|---|---|---|
| November | 66.5 | 93 | 62 | 4,422 | —5,000 | 4,472 |
| December | 62.2 | 89 | 55.4 | 3,971 | nil | 3,971 |
| January | 74 | 113 | 83.6 | 5,962 | +10,000 | 6,012 |
| February | 68 | 106 | 72 | 5,137 | nil | 5,137 |
| March | 62.5 | 96 | 60 | 4,279 | +5,000 | 4,779 |
| April | 70 | 60 | 42 | 2,992 | +30,000 | 3,292 |

Thus we have the actual forecast. When once the system is working and sufficient time is given over to reviewing the opinion of the experts little time is needed in making the actual forecast. There is much less actual figuring after the original work has been completed than in the original method, but it involves to a much greater extent the personal equation.

With the large fund of expert advice which is now available, coming as it does from so many sources, the danger of error from this personal factor in the calculation is at a minimum.

### Record of Results

The best result has been found in combining the mechanical formula and the graphic method, the results in index numbers of the work of forecasting each month's sales, are as follows:

| | Estimated | Actual | | Estimated | Actual |
|---|---|---|---|---|---|
| 1929 | | | 1930 | | |
| October | 5,178 | 6,170 | June | 3,537 | 3,832 |
| November | 3,610 | 3,446 | July | 3,033 | 2,942 |
| December | 3,680 | 3,659 | August | 5,032 | 6,873 |
| 1930 | | | September | 5,980 | 4,920 |
| January | 7,030 | 4,544 | October | 5,456 | 5,098 |
| February | 4,028 | 4,428 | November | 4,286 | 2,213 |
| March | 4,319 | 4,426 | December | 4,686 | 3,486 |
| April | 2,338 | 4,693 | 1931 | | |
| May | 2,958 | 3,731 | January | 4,104 | 2,668 |
| | | | February | 4,008 | 4,600 |

The following fact is not conclusive of anything, but it is interesting to note: Over a period of 17 months the estimated sales budget has been only 0.0213% over the actual sales.

# Eastern Carolina S.T.A. Meeting

*(Continued from page 34)*

Mr. Cates stated that spindle oil ranges from 40 to 100 seconds Saybolt viscosity and that a difference of 25 seconds in viscosity was found to cause a corresponding change in power consumption of approximately two watts per spindle per hour. The weight of the spindle and speed both were said to be important factors in determining the proper viscosity of oil required.

Mr. Holt found that a manufacturer's oil of between 65 and 70 seconds viscosity, designated as Grade B, did not prove satisfactory as stuck spindles and soft yarn resulted. He changed to an oil of around 54 seconds viscosity and found that the power factor was lowered, particularly in the morning. He stated that a standard of between 50 and 55 seconds viscosity was adopted as best for their conditions. Twice each year before new oil is put in Mr. Holt said their spindle bases are cleaned out with a vacuum pump.

### Problems of Card Room

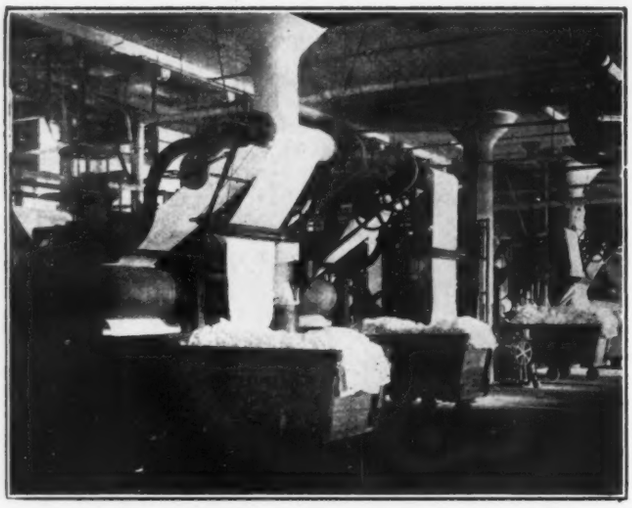
The afternoon session was devoted to problems in the card room and the discussion was led by M. R. Vick, overseer carding, Rosemary Mfg. Co., Plant No. 1, Roanoke Rapids, N. C.

There was no definite idea as to how often clearers should be changed, but it was felt that they should not be allowed to run after they begin to look the least bit slick. E. R. Wright, Durham Hosiery Mills, No. 6, Durham, N. C., asked which is preferred for clearers, long or short nap, and if the long nap causes more "eye-brows." Chairman Vick felt that the long nap clearer is better, but did not know if it caused "eye-brows," having attributed this trouble to short staple cotton. Clarence Cates asked if anyone had tried colored clearer cloth on white stock as a means of getting the clearers picked cleaner. He had tried colored cloth for a few days, but felt that it was too early to say what effect the change would have.

In discussing the best practical system for keeping numbers from picker room, Mr. Holt stated that compensation for changes in humidity are made in the picker room by means of a set of weights which are added to the scale. Changes are made by the overseer according to a table already worked out, and, after the weights are adjusted, the picker hand has nothing to do but check the same figures on the lap scale. This removes to a large extent the possibility of error on the part of the picker hand. Mr. Holt found that numbers are more uniform than before the system was installed and that it is necessary to change gears only occasionally. Gear changes are made only after spinning runs heavy or light for a considerable length of time.

### D. F. Burns Elected Chairman

The regular business session of the division was held in the afternoon. D. F. Burns, general superintendent of spinning, Durham Hosiery Mills, Durham, N. C., was elected chairman to succeed N. B. Hill who is considering leaving the industry. M. R. Vick, Rosemary Mfg. Co., Roanoke Rapids, N. C., was named vice-chairman while Clarence C. Cates, Edenton (N. C.) Cotton Mills, was re-elected secretary of the division. Roanoke Rapids, N. C., was selected as the place of the fall meeting.



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